HLT Timing Summary 1

Main Info

CMS Experiment

February 28, 2012

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HLT Mu5 v15

HLT Mu8 v13

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2.2.5

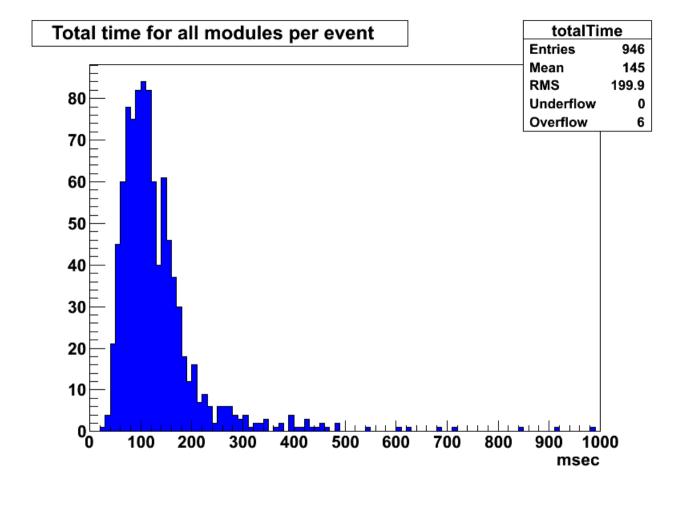
2.2.6

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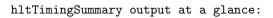
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Chapter 1

Total time for all modules per event



1.1 Summary



Input file: outputTiming.root

Output root file name: outfileNoDeDx.root

NOTE: Results obtained using CPU time.

Due to resolution effects in CPUTimer, event histograms may not reflect reality.

Please be aware of these limitations when drawing your conclusions.

Skipping 54 event(s) due to module initialization:

Events 0, 24, 14, 1, 107, 168, 558, 7, 74, 316, 797, 3, 34, 128, 5, 46, 379, 129, 180, 410, 602, 8, 428, 10, 36

Not including any information from the following excluded modules:

hltGetRaw

 ${\tt hltGetConditions}$

 ${\tt hltBoolFalse}$

```
Average path times are as follows (all in msec):
 45.9909 (path HLT_Activity_Ecal_SC7_v9)
 28.1828 (path HLT_PFJet260_v1)
  26.7116 (path HLT_PFJet320_v1)
 26.7105 (path HLT_PFJet400_v1)
  30.6190 (path HLT_MonoCentralPFJet80L1FastJet_PFMHTWOM95_NHEF95_v1)
 28.1828 (path HLT_DiPFJetAve260_v1)
 26.7116 (path HLT_DiPFJetAve320_v1)
  26.7105 (path HLT_DiPFJetAve400_v1)
  31.8250 (path HLT_DiPFJet40L1FastJet_PFMHTWOM65_M800VBF_ALLJETS_v1)
  31.8250 (path HLT_DiPFJet40L1FastJet_PFMHTWOM65_M600VBF_LEADINGJETS_v1)
 43.5357 (path HLT_DiJet80Eta2p6_L1FastJet_BTagIP3DLoose_v1)
  38.6833 (path HLT_Jet60Eta1p7_Jet53Eta1p7_L1FastJet_DiBTagIP3D_v1)
  32.7952 (path HLT_Jet80Eta1p7_Jet70Eta1p7_L1FastJet_DiBTagIP3D_v1)
 27.1809 (path HLT_Jet160Eta2p4_Jet120Eta2p4_L1FastJet_DiBTagIP3DLoose_v1)
```

```
29.9743 (path HLT_QuadL1FastJet_BTagIP_VBF_v1)
28.8677 (path HLT_ExclDiJet80_HFAND_v1)
26.4653 (path HLT_JetE30_NoBPTX_v9)
26.3332 (path HLT_JetE30_NoBPTX3BX_NoHalo_v11)
```

- 26.3332 (path HLT_JetE50_NoBPTX3BX_NoHalo_v6)
- 26.3332 (path HLT_JetE70_NoBPTX3BX_NoHalo_v1)
- 30.1772 (path HLT_HT250_L1FastJet_DoubleDisplacedPFJet60_v1)
- 20.4770 (.1. 11.5. 14.5.
- 30.1772 (path HLT_HT250_L1FastJet_DoubleDisplacedPFJet60_ChgFraction10_v1)

30.1772 (path HLT_HT250_L1FastJet_SingleDisplacedPFJet60_v1)

- 30.1772 (path HLT_HT250_L1FastJet_SingleDisplacedPFJet60_ChgFraction10_v1)
- 28.0602 (path HLT_MET80_v1)
- 29.8094 (path HLT_MET80_Track50_dEdx3p6_v1)

29.8094 (path HLT_MET80_Track60_dEdx3p7_v1)

- 26.4812 (path HLT_L1SingleMuOpen_v5)
- 26.4822 (path HLT_L1SingleMu12_v1)
- 27.2887 (path HLT_L2Mu20_eta2p1_NoVertex_v1)

```
26.3332 (path HLT_L2Mu10_NoVertex_NoBPTX3BX_NoHalo_v1)
26.3332 (path HLT_L2Mu20_NoVertex_NoBPTX3BX_NoHalo_v1)
26.3332 (path HLT_L2Mu30_NoVertex_NoBPTX3BX_NoHalo_v1)
26.8162 (path HLT_L2TripleMu10_0_0_NoVertex_PFJet40Neutral_L1FastJet_v1)
28.5517 (path HLT_DoubleDisplacedMu4_DiPFJet40Neutral_L1FastJet_v1)
51.7902 (path HLT_Mu5_v15)
51.7744 (path HLT_Mu8_v13)
33.9653 (path HLT_Mu12_v13)
29.9236 (path HLT_Mu17_v1)
31.9920 (path HLT_Mu15_eta2p1_v1)
27.6290 (path HLT_Mu24_eta2p1_v1)
27.6290 (path HLT_Mu30_eta2p1_v1)
27.6290 (path HLT_Mu40_eta2p1_v6)
27.6290 (path HLT_Mu50_eta2p1_v3)
29.5706 (path HLT_IsoMu20_eta2p1_v1)
27.6290 (path HLT_IsoMu24_eta2p1_v8)
```

27.6290 (path HLT_IsoMu30_eta2p1_v8)

```
27.6290 (path HLT_IsoMu34_eta2p1_v6)
27.6290 (path HLT_IsoMu40_eta2p1_v3)
27.6301 (path HLT_Mu40_eta2p1_Track50_dEdx3p6_v1)
27.6290 (path HLT_Mu40_eta2p1_Track60_dEdx3p7_v1)
27.3753 (path HLT_L2DoubleMu23_NoVertex_v9)
27.3732 (path HLT_L2DoubleMu23_NoVertex_2Cha_Angle2p5_v1)
```

33.0954 (path HLT_DoubleMu4_Jpsi_Displaced_v6)

33.0785 (path HLT_DoubleMu4_JpsiTk_Displaced_v1)

33.0795 (path HLT_DoubleMu4_Dimuon4_Bs_Barrel_v6)

33.0785 (path HLT_DoubleMu3p5_LowMass_Displaced_v1)

33.0933 (path HLT_DimuonO_Jpsi_NoVertexing_v8)

33.0827 (path HLT_DoubleMu4_Dimuon6_Bs_v6)

33.0943 (path HLT_Dimuon0_Jpsi_v11)

33.0933 (path HLT_Dimuon0_Upsilon_v11)

33.0965 (path HLT_Dimuon0_PsiPrime_v1)

33.0943 (path HLT_Dimuon5_Upsilon_v1)

```
33.0943 (path HLT_Dimuon5_PsiPrime_v1)
33.0954 (path HLT_Dimuon5_Jpsi_v1)
33.0711 (path HLT_Dimuon8_Upsilon_v1)
33.0721 (path HLT_Dimuon9_PsiPrime_v6)
33.0711 (path HLT_Dimuon9_Jpsi_v1)
33.0943 (path HLT_Dimuon3p5_SameSign_v1)
33.0743 (path HLT_Tau2Mu_RegPixTrack_v1)
29.9236 (path HLT_Mu13_Mu8_v12)
29.9246 (path HLT_Mu17_Mu8_v12)
30.1857 (path HLT_Mu17_TkMu8_v5)
28.2494 (path HLT_Mu22_TkMu8_v1)
28.2505 (path HLT_Mu22_TkMu22_v1)
26.7433 (path HLT_TripleMu5_v14)
26.7433 (path HLT_DoubleMu5_IsoMu5_v13)
32.6240 (path HLT_Mu5_L2Mu3_Jpsi_v1)
28.5464 (path HLT_Photon20_R9Id_Photon18_R9Id_v8)
```

26.9420 (path HLT_Photon26_Photon18_v8)

```
26.7549 (path HLT_Photon26_R9Id85_Photon18_R9Id85_Mass60_v1)
26.7560 (path HLT_Photon26_R9Id85_Photon18_CaloId10_Iso50_Mass60_v1)
26.8680 (path HLT_Photon26_CaloId10_Iso50_Photon18_R9Id85_Mass60_v1)
26.8680 (path HLT_Photon26_CaloId10_Iso50_Photon18_CaloId10_Iso50_Mass60_v1)
26.8691 (path HLT_Photon26_R9Id85_OR_CaloId10_Iso50_Photon18_R9Id85_OR_CaloId10_Iso50_Mass60_v1)
26.8691 (path HLT_Photon26_R9Id85_OR_CaloId10_Iso50_Photon18_v1)
26.8881 (path HLT_Photon30_CaloIdVL_v9)
26.9610 (path HLT_Photon36_Photon22_v2)
26.8173 (path HLT_Photon36_R9Id85_Photon22_R9Id85_v1)
26.8173 (path HLT_Photon36_R9Id85_Photon22_CaloId10_Iso50_v1)
26.8944 (path HLT_Photon36_CaloId10_Iso50_Photon22_R9Id85_v1)
26.8966 (path HLT_Photon36_CaloId10_Iso50_Photon22_CaloId10_Iso50_v1)
26.8966 (path HLT_Photon36_R9Id85_OR_CaloId10_Iso50_Photon22_R9Id85_OR_CaloId10_Iso50_v1)
26.8966 (path HLT_Photon36_R9Id85_OR_CaloId10_Iso50_Photon22_v1)
26.7623 (path HLT_Photon50_CaloIdVL_v5)
26.7243 (path HLT_Photon75_CaloIdVL_v8)
```

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26.7211 (path HLT_Photon90_CaloIdVL_v5)
26.7200 (path HLT_Photon90_CaloIdVL_IsoL_v8)
26.7179 (path HLT_Photon90EBOnly_CaloIdVL_IsoL_TriPFJet25_v6)
26.7190 (path HLT_Photon90EBOnly_CaloIdVL_IsoL_TriPFJet30_v6)
26.5340 (path HLT_Photon135_v3)
26.5340 (path HLT_Photon150_v1)
26.5340 (path HLT_Photon160_v1)
26.5340 (path HLT_Photon250_NoHE_v1)
26.5340 (path HLT_Photon300_NoHE_v1)
26.8870 (path HLT_DoublePhoton43_HEVT_v2)
26.8353 (path HLT_DoublePhoton48_HEVT_v2)
26.5393 (path HLT_DoublePhoton70_v2)
26.5393 (path HLT_DoublePhoton80_v3)
35.8244 (path HLT_Ele8_CaloIdL_CaloIsoVL_v11)
31.4730 (path HLT_Ele17_CaloIdL_CaloIsoVL_v11)
29.5558 (path HLT_Ele22_CaloIdL_CaloIsoVL_v1)
```

27.6702 (path HLT_Ele27_CaloIdL_CaloIsoVL_TrkIdVL_TrkIsoVL_v4)

```
27.1946 (path HLT_Ele27_CaloIdT_CaloIsoVL_TrkIdVL_TrkIsoVL_Ele15_CaloIdT_CaloIsoVL_trackless_v1)
27.1946 (path HLT_Ele27_CaloIdT_CaloIsoVL_TrkIdVL_TrkIsoVL_HFT15_v1)
27.3764 (path HLT_Ele23_CaloIdT_CaloIsoVL_TrkIdVL_TrkIsoVL_HFT30_v1)
27.1122 (path HLT_Ele27_WP80_v4)
27.1122 (path HLT_Ele27_WP80_PFMT50_v10)
27.3003 (path HLT_Ele30_CaloIdVT_TrkIdT_v1)
27.0329 (path HLT_Ele32_WP70_v4)
27.0329 (path HLT_Ele32_WP70_PFMT50_v10)
27.2686 (path HLT_Ele32_CaloIdL_CaloIsoVL_TrkIdVL_TrkIsoVL_v4)
26.7190 (path HLT_Ele65_CaloIdVT_TrkIdT_v7)
26.7190 (path HLT_Ele80_CaloIdVT_TrkIdT_v4)
26.7211 (path HLT_Ele100_CaloIdVT_TrkIdT_v4)
27.4271 (path HLT_DoubleEle33_CaloIdL_v8)
27.4271 (path HLT_DoubleEle33_CaloIdL_GsfTrkIdVL_v1)
27.3077 (path HLT_DoubleEle33_CaloIdT_v4)
```

44.0261 (path HLT_BTagMu_DiJet20_L1FastJet_Mu5_v1)

```
28.0380 (path HLT_BTagMu_DiJet70_L1FastJet_Mu5_v1)
28.0327 (path HLT_BTagMu_DiJet110_L1FastJet_Mu5_v1)
26.8648 (path HLT_BTagMu_Jet300_L1FastJet_Mu5_v1)
26.5266 (path HLT_Mu15_eta2p1_L1ETM20_v1)
27.6290 (path HLT_IsoMu24_eta2p1_CentralPFJet30_CentralPFJet25_v1)
27.6301 (path HLT_Mu24_eta2p1_CentralPFJet30_CentralPFJet25_v1)
27.6301 (path HLT_IsoMu24_eta2p1_PFJet30_PFJet25_Deta3_v1)
27.6290 (path HLT_Mu24_eta2p1_PFJet30_PFJet25_Deta3_v1)
27.6301 (path HLT_IsoMu24_eta2p1_CentralPFJet30_CentralPFJet25_PFMHT20_v1)
27.1132 (path HLT_Ele27_WP80_CentralPFJet30_CentralPFJet25_v1)
27.1122 (path HLT_Ele27_WP80_PFJet30_PFJet25_Deta3_v1)
27.1122 (path HLT_Ele27_WP80_CentralPFJet30_CentralPFJet25_PFMHT20_v1)
29.5737 (path HLT_Iso10Mu20_eta2p1_CentralPFJet30_BTagIPIter_v1)
29.5737 (path HLT_Iso10Mu20_eta2p1_CentralPFJet30_v1)
```

41.0551 (path HLT_BTagMu_DiJet40_L1FastJet_Mu5_v1)

29.5737 (path HLT_Iso10Mu20_eta2p1_DiCentralPFJet30_v1)

29.5737 (path HLT_Iso10Mu20_eta2p1_TriCentralPFJet30_v1)

```
29.5748 (path HLT_Iso10Mu20_eta2p1_QuadCentralPFJet30_v1)
30.1033 (path HLT_Mu20_eta2p1_QuadCentralPFJet30_v1)
```

30.1033 (path HLT_Mu20_eta2p1_TriCentralPFJet30_v1)

26.5266 (path HLT_IsoMu15_eta2p1_L1ETM20_v1)

26.9114 (path HLT_Mu30_Ele30_CaloIdL_v1)

 $27.6290 \ (\texttt{path} \ \texttt{HLT_IsoMu20_eta2p1_CentralPFJet80_v1})$

27.6290 (path HLT_Mu18_eta2p1_LooseIsoPFTau20_v1)

27.6290 (path HLT_IsoMu18_eta2p1_LooseIsoPFTau20_v1)

28.5263 (path HLT_Ele20_CaloIdVT_CaloIsoRhoT_TrkIdT_TrkIsoT_LooseIsoPFTau20L1Jet_v1)
32.0004 (path HLT_Ele20_CaloIdVT_TrkIdT_LooseIsoPFTau20_v1)

29.1520 (path HLT_Ele20_CaloIdVT_CaloIsoRhoT_TrkIdT_TrkIsoT_LooseIsoPFTau20_v1)

29.1245 (path HLT_Ele20_CaloIdVT_CaloIsoRhoT_TrkIdT_TrkIsoT_v1)

28.9058 (path HLT_Ele25_CaloIdVT_TrkIdT_TriCentralPFJet30_v4)
28.9047 (path HLT_Ele25_CaloIdVT_TrkIdT_QuadCentralPFJet30_v4)

27.2813 (path HLT_Ele25_CaloIdVT_CaloIsoT_TrkIdT_TrkIsoT_CentralPFJet30_v4)

27.2823 (path HLT_Ele25_CaloIdVT_CaloIsoT_TrkIdT_TrkIsoT_DiCentralPFJet30_v4)

```
27.2834 (path HLT_Ele25_CaloIdVT_CaloIsoT_TrkIdT_TrkIsoT_TriCentralPFJet30_v4)
27.2813 (path HLT_Ele25_CaloIdVT_CaloIsoT_TrkIdT_TrkIsoT_QuadCentralPFJet30_v4)
27.2823 (path HLT_Ele25_CaloIdVT_CaloIsoT_TrkIdT_TrkIsoT_CentralPFJet30_BTagIPIter_v1)
27.1122 (path HLT_Ele27_WP80_CentralPFJet80_v1)
27.2992 (path HLT_Ele30_CaloIdVT_TrkIdT_PFJet100_PFJet25_v1)
27.3024 (path HLT_Ele30_CaloIdVT_TrkIdT_PFJet150_PFJet25_v1)
26.4674 (path HLT_BeamGas_HF_Beam1_v3)
26.4611 (path HLT_BeamGas_HF_Beam2_v3)
26.4727 (path HLT_BeamHalo_v9)
26.4717 (path HLT_L1Tech_CASTOR_HaloMuon_v2)
26.4674 (path HLT_L1Tech_DT_GlobalOR_v2)
26.4590 (path HLT_GlobalRunHPDNoise_v6)
26.4664 (path HLT_L1Tech_HBHEHO_totalOR_v4)
26.4643 (path HLT_L1Tech_HCAL_HF_single_channel_v2)
26.5118 (path HLT_ZeroBias_v5)
```

26.4537 (path HLT_Physics_v3)

26.4537 (path DST_Physics_v3)

- 0.0021 (path HLT_DTCalibration_v1) 0.0021 (path HLT_EcalCalibration_v2) 0.0021 (path HLT_HcalCalibration_v2) 0.0021 (path HLT_TrackerCalibration_v2) 0.0011 (path HLT_Random_v1) 26.3332 (path HLT_L1SingleMuOpen_AntiBPTX_v4)
- 26.4717 (path HLT_L1TrackerCosmics_v5)
- 25.4665 (path HLT_LogMonitor_v1)
- 25.4613 (path HLT_DTErrors_v2) 26.4939 (path HLT_L1DoubleJet36Central_v5)
- 27.4398 (path AlCa_EcalPi0EBonly_v1)
- 27.4144 (path AlCa_EcalPi0EEonly_v1) 27.4440 (path AlCa_EcalEtaEBonly_v1)
- 27.3711 (path AlCa_EcalEtaEEonly_v1)
- 30.7120 (path AlCa_EcalPhiSym_v8)
- 26.6767 (path AlCa_RPCMuonNoTriggers_v7)

```
42.0010 (path DQM_FEDIntegrity_v6)
  26.3903 (path HLTriggerFinalPath)
The slowest event (608) took 4866.2620 msec
The three slowest modules (running in any path) are:
Module siStripDigis, with average per event time:
                                                   10.7140 msec
Module hltPixelTracks, with average per event time:
                                                      7.4249 msec
Module hltTowerMakerForAll, with average per event time:
                                                           7.1215 msec
The three slowest modules (by path) are:
Module siStripDigis in path HLT_Activity_Ecal_SC7_v9, with average per event time:
                                                                                    10.7140 msec
Module hltMulti5x5SuperClustersWithPreshowerActivity in path HLT_Activity_Ecal_SC7_v9, with average per event t
Module hltPixelTracks in path HLT_Jet60Eta1p7_Jet53Eta1p7_L1FastJet_DiBTagIP3D_v1, with average per event time:
```

28.3181 (path AlCa_RPCMuonNoHits_v7)

26.5953 (path AlCa_LumiPixels_v3)

27.3087 (path AlCa_RPCMuonNormalisation_v7)

The three slowest RUNNING modules (by path) are:

Module hltIter4PFJetCkfTrackCandidates in path HLT_Mu20_eta2p1_QuadCentralPFJet30_v1, with average running time

Module hltRegionalCandidatesForL3MuonIsolation in path HLT_IsoMu20_eta2p1_v1, with average running time: 1666.7

Module hltPFJetCkfTrackCandidates in path HLT_Mu20_eta2p1_QuadCentralPFJet30_v1, with average running time: 32

1.0000 msec

1.0000 msec

A given module took the longest time to run in the following events:

Module csctfDigis was slowest in event 20, with time: 1.0000 msec

Module gctDigis was slowest in event 21, with time:

Module dttfDigis was slowest in event 15, with time:

Module gtDigis was slowest in event 35, with time: 1.0000 msec

Module gtEvmDigis was slowest in event 89, with time: 1.0000 msec

Module siPixelDigis was slowest in event 970, with time: 8.9990 msec

Module siStripDigis was slowest in event 16, with time: 15.9980 msec

Module ecalDigis was slowest in event 674, with time: 5.0000 msec

Module ecalPreshowerDigis was slowest in event 6, with time: 1.0000 msec Module hcalDigis was slowest in event 250, with time: 2.0000 msec Module muonCSCDigis was slowest in event 769, with time: 13.9980 msec Module muonDTDigis was slowest in event 19, with time: 1.0000 msec Module muonRPCDigis was slowest in event 31, with time: 1.0000 msec Module castorDigis was slowest in event 151, with time: 1.0000 msec Module scalersRawToDigi was slowest in event 35, with time: 1.0000 msec Module simBscDigis was slowest in event 29, with time: 1.0000 msec Module simRpcTechTrigDigis was slowest in event 9, with time: 1.0000 msec Module simHcalTechTrigDigis was slowest in event 103, with time: 1.0000 msec Module simGtDigis was slowest in event 75, with time: 2.0000 msec Module hltL1Gt0bjectMap was slowest in event 6, with time: 1.0000 msec Module hltL1extraParticles was slowest in event 18, with time: 1.0000 msec Module hltScalersRawToDigi was slowest in event 163, with time: 1.0000 msec Module hltOnlineBeamSpot was slowest in event 44, with time: 1.0000 msec Module hltOfflineBeamSpot was slowest in event 33, with time: 1.0000 msec Module hltL1sZeroBias was slowest in event 31, with time: 1.0000 msec Module hltEcalRawToRecHitFacility was slowest in event 55, with time: 1.0000 msec Module hltESRawToRecHitFacility was slowest in event 19, with time: 1.0000 msec

Module hltEcalRegionalRestFEDs was slowest in event 79, with time: 1.0000 msec

Module hltEcalRegionalESRestFEDs was slowest in event 38, with time: 1.0000 msec

Module hltEcalRecHitAll was slowest in event 367, with time: 6.9990 msec

Module hltESRecHitAll was slowest in event 16, with time: 5.9990 msec

Module hltHybridSuperClustersActivity was slowest in event 674, with time: 3.9990 msec

Module hltCorrectedHybridSuperClustersActivity was slowest in event 43, with time: 1.0000 msec

Module hltMulti5x5BasicClustersActivity was slowest in event 970, with time: 8.9990 msec

Module hltMulti5x5SuperClustersActivity was slowest in event 674, with time: 4.9990 msec

Module hltMulti5x5SuperClustersWithPreshowerActivity was slowest in event 674, with time: 22.9970 msec

Module hltCorrectedMulti5x5SuperClustersWithPreshowerActivity was slowest in event 20, with time: 1.0000 mse

1.0000 msec

Module hltRecoEcalSuperClusterActivityCandidate was slowest in event 99, with time: 1.0000 msec

Module hltEcalActivitySuperClusterWrapper was slowest in event 69, with time: 1.0000 msec

Module hltEgammaSelectEcalSuperClustersActivityFilterSC7 was slowest in event 105, with time:

Module hltL1sL1SingleJet128 was slowest in event 88, with time: 1.0000 msec

Module hltEcalRegionalJetsRecHit was slowest in event 86, with time: 1.0000 msec

```
Module hltHcalDigis was slowest in event 15, with time:
                                                           2.0000 msec
Module hltHbhereco was slowest in event 6, with time:
                                                         2.0000 msec
Module hltHfreco was slowest in event 32, with time:
                                                        2.0000 msec
Module hltHoreco was slowest in event 20, with time:
                                                        1.0000 msec
Module hltTowerMakerForJets was slowest in event 395, with time:
                                                                    8.9990 msec
Module hltAntiKT5CaloJetsRegional was slowest in event 395, with time:
                                                                          7.9990 msec
Module hltCaloJetL1MatchedRegional was slowest in event 807, with time:
                                                                           1.0000 msec
Module hltCaloJetIDPassedRegional was slowest in event 86, with time:
                                                                         1.0000 msec
Module hltTowerMakerForPF was slowest in event 608, with time:
                                                                12.9980 msec
Module hltAntiKT5CaloJetsPF was slowest in event 608, with time:
                                                                    6.0000 msec
Module hltMuonDTDigis was slowest in event 16, with time:
                                                             1.0000 msec
Module hltDt1DRecHits was slowest in event 32, with time:
                                                             1.0000 msec
Module hltDt4DSegments was slowest in event 746, with time:
                                                               4.9990 msec
Module hltMuonCSCDigis was slowest in event 769, with time:
                                                              13.9980 msec
Module hltCsc2DRecHits was slowest in event 769, with time:
                                                               8.9990 msec
                                                             6.9990 msec
Module hltCscSegments was slowest in event 64, with time:
Module hltMuonRPCDigis was slowest in event 20, with time:
                                                              1.0000 msec
```

Module hltRpcRecHits was slowest in event 109, with time: 1.0000 msec

Module hltL2OfflineMuonSeeds was slowest in event 863, with time: 1.0000 msec

Module hltL2MuonSeeds was slowest in event 746, with time: 8.9990 msec

Module hltL2Muons was slowest in event 217, with time: 6.9990 msec

Module hltL2MuonCandidates was slowest in event 27, with time: 1.0000 msec

Module hltSiPixelDigis was slowest in event 506, with time: 8.9980 msec

Module hltSiPixelClusters was slowest in event 607, with time: 21.9970 msec

Module hltSiPixelRecHits was slowest in event 607, with time: 21.9970 msec

Module hltSiStripExcludedFEDListProducer was slowest in event 146, with time: 1.0000 msec

Module hltSiStripRawToClustersFacility was slowest in event 18, with time: 1.0000 msec

Module hltSiStripClusters was slowest in event 15, with time: 1.0000 msec

Module hltL3TrajSeedOIState was slowest in event 471, with time: 30.9950 msec

Module hltL3TrackCandidateFromL20IState was slowest in event 741, with time: 50.9920 msec

Module hltL3TkTracksFromL20IState was slowest in event 623, with time: 1.9990 msec

Module hltL3MuonsOIState was slowest in event 849, with time: 5.9990 msec

Module hltL3TrajSeedOIHit was slowest in event 903, with time: 4.9990 msec

Module hltL3TrackCandidateFromL20IHit was slowest in event 672, with time: 64.9900 msec Module hltL3TkTracksFromL20IHit was slowest in event 340, with time: 3.0000 msec Module hltL3MuonsOIHit was slowest in event 200, with time: 6.9990 msec Module hltL3TkFromL20ICombination was slowest in event 97, with time: 1.0000 msec Module hltL3TrajSeedIOHit was slowest in event 676, with time: 33.9950 msec Module hltL3TrackCandidateFromL2IOHit was slowest in event 676, with time: 689.8950 msec Module hltL3TkTracksFromL2IOHit was slowest in event 676, with time: 31.9950 msec Module hltL3MuonsIOHit was slowest in event 676, with time: 12.9980 msec Module hltL3TrajectorySeed was slowest in event 23, with time: 1.0000 msec Module hltL3TrackCandidateFromL2 was slowest in event 15, with time: 1.0000 msec Module hltL3TkTracksFromL2 was slowest in event 89, with time: 1.0000 msec Module hltL3MuonsLinksCombination was slowest in event 200, with time: 1.0000 msec Module hltL3Muons was slowest in event 65, with time: 1.0000 msec Module hltL3MuonCandidates was slowest in event 136, with time: 1.0000 msec Module hltPixelTracks was slowest in event 949, with time: 347.9470 msec Module hltPixelVertices was slowest in event 229, with time: 1.0000 msec Module hltPFJetPixelSeedsFromPixelTracks was slowest in event 608, with time: 19.9970 msec Module hltPFJetCkfTrackCandidates was slowest in event 608, with time: 326.9510 msec

Module hltPFJetCtfWithMaterialTracks was slowest in event 608, with time: 143.9780 msec

Module hltPFlowTrackSelectionHighPurity was slowest in event 608, with time: 6.9990 msec

Module hltTrackRefsForJetsIterO was slowest in event 807, with time: 1.0000 msec

Module hltAntiKT5TrackJetsIterO was slowest in event 608, with time: 1.0000 msec

Module hltTrackAndTauJetsIterO was slowest in event 781, with time: 1.0000 msec

Module hltIter1ClustersRefRemoval was slowest in event 590, with time: 1.0000 msec

Module hltIter1SiStripClusters was slowest in event 590, with time: 1.0000 msec

Module hltIter1PFJetPixelSeeds was slowest in event 608, with time: 104.9840 msec

Module hltIter1PFJetCkfTrackCandidates was slowest in event 608, with time: 57.9910 msec

Module hltIter1PFJetCtfWithMaterialTracks was slowest in event 608, with time: 13.9970 msec

Module hltIter1PFlowTrackSelectionHighPurityLoose was slowest in event 893, with time: 1.0000 msec

Module hltIter1PFlowTrackSelectionHighPurityTight was slowest in event 608, with time: 1.0000 msec

Module hltIter1PFlowTrackSelectionHighPurity was slowest in event 608, with time: 1.0000 msec

Module hltIter1Merged was slowest in event 608, with time: 12.9980 msec

Module hltTrackRefsForJetsIter1 was slowest in event 590, with time: 1.0000 msec

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Module hltAntiKT5TrackJetsIter1 was slowest in event 608, with time:
                                                                       1.0000 msec
Module hltIter2ClustersRefRemoval was slowest in event 608, with time:
                                                                         1.0000 msec
Module hltIter2SiStripClusters was slowest in event 548, with time:
                                                                       1.0000 msec
Module hltIter2PFJetPixelSeeds was slowest in event 608, with time: 101.9850 msec
Module hltIter2PFJetCkfTrackCandidates was slowest in event 608, with time: 197.9700 msec
Module hltIter2PFJetCtfWithMaterialTracks was slowest in event 608, with time:
                                                                                32.9950 msec
Module hltIter2PFlowTrackSelectionHighPurity was slowest in event 608, with time:
                                                                                     2.0000 msec
Module hltIter2Merged was slowest in event 608, with time:
                                                             7.9990 msec
Module hltTrackRefsForJetsIter2 was slowest in event 608, with time:
                                                                        1.0000 msec
Module hltAntiKT5TrackJetsIter2 was slowest in event 590, with time:
                                                                        1.0000 msec
Module hltIter3ClustersRefRemoval was slowest in event 548, with time:
                                                                          1.0000 msec
Module hltIter3SiStripClusters was slowest in event 608, with time:
                                                                       1.0000 msec
Module hltIter3PFJetMixedSeeds was slowest in event 608, with time:
                                                                      67.9900 msec
Module hltIter3PFJetCkfTrackCandidates was slowest in event 608, with time:
                                                                             32.9950 msec
Module hltIter3PFJetCtfWithMaterialTracks was slowest in event 608, with time:
                                                                                11.9980 msec
Module hltIter3PFlowTrackSelectionHighPurityLoose was slowest in event 608, with time:
                                                                                          1.0000 msec
Module hltIter3PFlowTrackSelectionHighPurityTight was slowest in event 893, with time:
                                                                                          1.0000 msec
```

Module hltIter3PFlowTrackSelectionHighPurity was slowest in event 807, with time: 1.0000 msec Module hltIter3Merged was slowest in event 608, with time: 5.9990 msec Module hltTrackRefsForJetsIter3 was slowest in event 590, with time: 1.0000 msec Module hltAntiKT5TrackJetsIter3 was slowest in event 807, with time: 1.0000 msec Module hltIter4ClustersRefRemoval was slowest in event 590, with time: 1.0000 msec Module hltIter4SiStripClusters was slowest in event 590, with time: 1.0000 msec Module hltIter4PFJetPixelLessSeeds was slowest in event 608, with time: 108.9830 msec Module hltIter4PFJetCkfTrackCandidates was slowest in event 608, with time: 345.9470 msec

6.9990 msec

Module hltIter4Merged was slowest in event 608, with time: 6.9990 msec

Module hltIter4PFJetCtfWithMaterialTracks was slowest in event 608, with time:

Module hltPFMuonMerging was slowest in event 807, with time: 3.0000 msec

Module hltMuonLinks was slowest in event 608, with time: 2.0000 msec

Module hltMuons was slowest in event 951, with time: 33.9950 msec

Module hltParticleFlowRecHitECAL was slowest in event 608, with time: 13.9980 msec

Module hltParticleFlowRecHitHCAL was slowest in event 608, with time: 11.9990 msec

Module hltParticleFlowRecHitPS was slowest in event 608, with time: 23.9960 msec

Module hltParticleFlowClusterECAL was slowest in event 608, with time: 13.9980 msec Module hltParticleFlowClusterHCAL was slowest in event 807, with time: 38.9940 msec Module hltParticleFlowClusterHFEM was slowest in event 807, with time: 38.9950 msec Module hltParticleFlowClusterHFHAD was slowest in event 608, with time: 26.9960 msec Module hltParticleFlowClusterPS was slowest in event 981, with time: 14.9980 msec Module hltLightPFTracks was slowest in event 608, with time: 2.9990 msec Module hltParticleFlowBlock was slowest in event 608, with time: 127.9810 msec Module hltParticleFlow was slowest in event 608, with time: 13.9980 msec Module hltAntiKT5PFJets was slowest in event 608, with time: 5.9990 msec Module hltAntiKT5ConvPFJets was slowest in event 781, with time: 1.0000 msec Module hltSingleJet260Regional was slowest in event 512, with time: 1.0000 msec Module hltL1sL1ETM40 was slowest in event 102, with time: 1.0000 msec Module hltTowerMakerForAll was slowest in event 282, with time: 14.9980 msec Module hltKT6CaloJets was slowest in event 282, with time: 16.9970 msec Module hltAntiKT5CaloJets was slowest in event 53, with time: 12.9980 msec Module hltCaloJetIDPassed was slowest in event 16, with time: 2.0000 msec Module hltCaloJetL1FastJetCorrected was slowest in event 201, with time: 2.0000 msec Module hltCentralJet65L1FastJet was slowest in event 368, with time: 1.0000 msec Module hltMet was slowest in event 43, with time: 2.0000 msec Module hltPFMHTWOM was slowest in event 951, with time: 1.0000 msec Module hltL1sL1DoubleJet36Central was slowest in event 16, with time: 1.0000 msec Module hltDoubleBJet80Eta2p6L1FastJet was slowest in event 232, with time: 1.0000 msec Module hltPixelVertices3DbbPhi was slowest in event 949, with time: 114.9820 msec Module hltSelector4JetsL1FastJet was slowest in event 376, with time: 1.0000 msec Module hltBLifetimeL25AssociatorbbPhiL1FastJet was slowest in event 293, with time: 1.0000 msec Module hltBLifetimeL25TagInfosbbPhiL1FastJet was slowest in event 86, with time: 1.0000 msec Module hltBLifetimeL25FilterbbPhi1B1stTrackL1FastJet was slowest in event 323. with time: 1.0000 msec Module hltBLifetimeRegionalPixelSeedGeneratorbbPhiL1FastJet was slowest in event 638, with time: 19.9970 msec Module hltBLifetimeRegionalCkfTrackCandidatesbbPhiL1FastJet was slowest in event 638, with time: 218.9670 msec 15.9970 m Module hltBLifetimeRegionalCtfWithMaterialTracksbbPhiL1FastJet was slowest in event 638, with time: Module hltBLifetimeL3AssociatorbbPhiL1FastJet was slowest in event 596, with time: 1.0000 msec Module hltBLifetimeL3TagInfosbbPhiL1FastJet was slowest in event 86, with time: 1.0000 msec

1.0000 msec

Module hltBLifetimeL3FilterbbPhi1BLooseL1FastJet was slowest in event 229, with time:

```
Module hltL1sL1DoubleJetC44Eta1p74WdEta4 was slowest in event 80, with time:
                                                                                1.0000 msec
Module hltPreJet60Eta1p7Jet53Eta1p7L1FastJetDiBTagIP3D was slowest in event 431, with time:
                                                                                               1.0000 msec
Module hltSingleBJet60Eta1p7L1FastJet was slowest in event 742, with time:
                                                                              1.0000 msec
Module hltBLifetimeL25BJetTagsbbPhiL1FastJet was slowest in event 957, with time:
                                                                                     1.0000 msec
Module hltBLifetimeL25FilterbbPhiL1FastJet was slowest in event 346, with time:
                                                                                   1.0000 msec
Module hltL1sL1DoubleJetC56Eta1p74WdEta4 was slowest in event 130, with time:
                                                                                 1.0000 msec
Module hltSingleBJet80Eta1p7L1FastJet was slowest in event 323, with time:
                                                                              1.0000 msec
Module hltSingleBJet160Eta2p4L1FastJet was slowest in event 596, with time:
                                                                               1.0000 msec
Module hltL1sL1TripleJet644424VBFORTripleJet644828VBF was slowest in event 66, with time:
                                                                                             1.0000 msec
Module hltPreQuadL1FastJetBTagIPVBF was slowest in event 809, with time:
                                                                            0.9990 msec
Module hltSingleL1FastJetHbbVBF was slowest in event 302, with time:
                                                                        1.0000 msec
Module hltL1sL1DoubleJetC56 was slowest in event 45, with time:
                                                                   1.0000 msec
Module hltPreExclDiJet80HFAND was slowest in event 589, with time:
                                                                      1.0000 msec
Module hltCaloJetCorrected was slowest in event 69, with time:
                                                                  1.0000 msec
Module hltExclDiJet80HFAND was slowest in event 80, with time:
                                                                  1.0000 msec
Module hltL1sL1SingleJet20CentralNoBPTX was slowest in event 37, with time:
                                                                               1.0000 msec
Module hltBPTXAntiCoincidence was slowest in event 26, with time:
                                                                     1.0000 msec
```

Module hltL1sL1SingleJet20CentralNoBPTXNoHalo was slowest in event 542, with time: 1.0000 msec Module hltL1sL1HTT150 was slowest in event 59, with time: 1.0000 msec Module hltHT250L1FastJet was slowest in event 101, with time: 1.0000 msec Module hltAntiKT5L2L3CorrCaloJetsL1FastJetPt60Eta2 was slowest in event 424, with time: 1.0000 msec Module hltDisplacedHT250L1FastJetL25Associator was slowest in event 957, with time: 1.0000 msec Module hltDisplacedHT250L1FastJetL25TagInfos was slowest in event 229, with time: 1.0000 msec Module hltDisplacedHT250L1FastJetRegionalPixelSeedGenerator was slowest in event 229, with time: 9.9980 msec Module hltDisplacedHT250L1FastJetRegionalCkfTrackCandidates was slowest in event 229, with time: 37.9940 msec Module hltDisplacedHT250L1FastJetRegionalCtfWithMaterialTracks was slowest in event 229, with time: 10.9990 m Module hltDisplacedHT250L1FastJetL3TagInfos was slowest in event 323, with time: 1.0000 msec Module hltL1sL1ETM36 was slowest in event 40, with time: 1.0000 msec Module hltPreMET80 was slowest in event 446, with time: 1.0000 msec Module hltMET80 was slowest in event 92, with time: 1.0000 msec Module hltPreMET80Track50dEdx3p6 was slowest in event 273, with time: 1.0000 msec Module hltDeDxEstimatorProducer was slowest in event 893, with time: 4.0000 msec Module hltPreMET80Track60dEdx3p7 was slowest in event 751, with time: 1.0000 msec

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Module hltL1sL1SingleMuOpen was slowest in event 96, with time:
                                                                   1.0000 msec
Module hltPreL1SingleMuOpen was slowest in event 404, with time:
                                                                    1.0000 msec
Module hltL1MuOpenL1FilteredO was slowest in event 156, with time:
                                                                      1.0000 msec
Module hltL1sL1SingleMu12 was slowest in event 19, with time:
                                                                 1.0000 msec
Module hltPreL1SingleMu12 was slowest in event 842, with time:
                                                                  0.9990 msec
Module hltL1fL1sMu12L1FilteredO was slowest in event 458, with time:
                                                                        1.0000 msec
Module hltL1sMu16Eta2p1 was slowest in event 66, with time:
                                                               1.0000 msec
Module hltL2MuonCandidatesNoVtx was slowest in event 794, with time:
                                                                        1.0000 msec
Module hltL2fL1sMu16Eta2p1L1f0L2Filtered20 was slowest in event 460, with time:
                                                                                   1.0000 msec
Module hltL1sL1TripleMuO was slowest in event 69, with time:
                                                                1.0000 msec
Module hltPreL2TripleMu1000NoVertexPFJet40NeutralL1FastJet was slowest in event 451, with time:
                                                                                                   1.0000 msec
Module hltL2TripleMuONoVertexL2PreFiltered was slowest in event 650, with time:
                                                                                   1.0000 msec
Module hltL1sL1DoubleMuOerHighQ was slowest in event 42, with time:
                                                                       1.0000 msec
Module hltPreDoubleDisplacedMu4DiPFJet40NeutralL1FastJet was slowest in event 980, with time:
                                                                                                 1.0000 msec
Module hltL1DoubleMuonOerHighQL1FilteredO was slowest in event 485, with time:
                                                                                  1.0000 msec
Module hltDoubleMu4L2PreFiltered was slowest in event 126, with time:
                                                                         1.0000 msec
Module hltDoubleDisplacedMu4L3PreFiltered was slowest in event 629, with time:
                                                                                  1.0000 msec
```

Module hltL1sL1SingleMu3 was slowest in event 60, with time: 1.0000 msec Module hltPreMu5 was slowest in event 519, with time: 1.0000 msec Module hltL1fL1sMu3L1FilteredO was slowest in event 55, with time: 1.0000 msec Module hltL2fL1sMu3L2Filtered3 was slowest in event 134, with time: 1.0000 msec Module hltL3fL1sMu3L3Filtered5 was slowest in event 123, with time: 1.0000 msec Module hltPreMu8 was slowest in event 110, with time: 0.9990 msec Module hltL3fL1sMu3L3Filtered8 was slowest in event 239, with time: 0.9990 msec Module hltL1sL1SingleMu7 was slowest in event 63, with time: 1.0000 msec Module hltPreMu12 was slowest in event 225, with time: 1.0000 msec Module hltL1fL1sMu7L1Filtered0 was slowest in event 407, with time: 1.0000 msec Module hltL2fL1sMu7L2Filtered7 was slowest in event 28, with time: 1.0000 msec Module hltL3fL1sMu7L3Filtered12 was slowest in event 669, with time: 1.0000 msec Module hltPreMu17 was slowest in event 276, with time: 1.0000 msec Module hltL2fL1sMu12L2Filtered12 was slowest in event 89, with time: 1.0000 msec Module hltL3fL1sMu12L3Filtered17 was slowest in event 714, with time: 1.0000 msec

1.0000 msec

Module hltL1fL1sMu7L1FilteredEta2p1FilteredO was slowest in event 617, with time:

```
Module hltL2fL1sMu7L1fEta2p1L2FilteredEta2p1Filtered7 was slowest in event 553, with time:
                                                                                              1.0000 msec
Module hltL2fL1sMu16Eta2p1L1f0L2Filtered16Q was slowest in event 696, with time:
                                                                                    1.0000 msec
Module hltTowerMakerForMuons was slowest in event 608, with time:
                                                                     5.9990 msec
Module hltRegionalSeedsForL3MuonIsolation was slowest in event 608, with time:
                                                                                 57.9920 msec
Module hltRegionalCandidatesForL3MuonIsolation was slowest in event 608, with time: 1666.7460 msec
Module hltRegionalTracksForL3MuonIsolation was slowest in event 608, with time:
                                                                                  99.9850 msec
Module hltL3MuonCombRelIsolations was slowest in event 608, with time:
                                                                          1.0000 msec
Module hltPreMu40eta2p1Track50dEdx3p6 was slowest in event 456, with time:
                                                                              1.0000 msec
Module hltL1sL1DoubleMu103p5 was slowest in event 9, with time:
                                                                   1.0000 msec
Module hltPreL2DoubleMu23NoVertex was slowest in event 212, with time:
                                                                          1.0000 msec
Module hltL1DoubleMuon103p5L1Filtered0 was slowest in event 906, with time:
                                                                               1.0000 msec
Module hltL2DoubleMu23NoVertexL2PreFiltered was slowest in event 816, with time:
                                                                                    1.0000 msec
Module hltL2DoubleMu23NoVertexL2Filtered2ChaAngle2p5 was slowest in event 906, with time:
                                                                                             0.9990 msec
Module hltDimuonL1FilteredO was slowest in event 390, with time:
                                                                    0.9990 msec
Module hltDimuonL2PreFilteredO was slowest in event 123, with time:
                                                                       1.0000 msec
Module hltDoubleMu4JpsiDisplacedL3Filtered was slowest in event 60, with time:
                                                                                  1.0000 msec
Module hltL1sL1DoubleMu33HighQ was slowest in event 31, with time:
                                                                      1.0000 msec
```

Module hltDimuon33L1Filtered0 was slowest in event 374, with time: 1.0000 msec Module hltDoubleMu4BarrelBsL3Filtered was slowest in event 281. with time: 1.0000 msec Module hltPreDoubleMu4Dimuon6Bs was slowest in event 826, with time: 1.0000 msec Module hltDoubleMu4Dimuon6BsL3Filtered was slowest in event 41, with time: 1.0000 msec Module hltJpsiL3Filtered was slowest in event 675, with time: 1.0000 msec Module hltPreDimuonOPsiPrime was slowest in event 281, with time: 1.0000 msec Module hltDimuonOPsiPrimeL3Filtered was slowest in event 969, with time: 0.9990 msec Module hltDimuon5UpsilonL3Filtered was slowest in event 123, with time: 1.0000 msec Module hltPreDimuon5PsiPrime was slowest in event 700, with time: 0.9990 msec Module hltDimuon5JpsiL3Filtered was slowest in event 477, with time: 1.0000 msec Module hltL1sL1DoubleMu50HighQ was slowest in event 72, with time: 1.0000 msec Module hltDimuon50L1Filtered0 was slowest in event 715, with time: 1.0000 msec Module hltDimuon50L2PreFiltered0 was slowest in event 821, with time: 1.0000 msec Module hltPreDimuon9PsiPrime was slowest in event 549, with time: 1.0000 msec Module hltDimuon3p5SameSignL3Filtered was slowest in event 891, with time: 1.0000 msec Module hltL1sL1DoubleMuOor33HighQ was slowest in event 27, with time: 1.0000 msec

Module hltDimuonOor33L1FilteredO was slowest in event 547, with time: 1.0000 msec Module hltDimuonOor33L2PreFilteredO was slowest in event 538, with time: 0.9990 msec Module hltL1sL1DoubleMu1OMu0pen was slowest in event 22, with time: 1.0000 msec Module hltL1DoubleMu1OMuOpenL1FilteredO was slowest in event 238, with time: 1.0000 msec Module hltL2fL1DoubleMu10Mu0penL1f0L2Filtered10 was slowest in event 31, with time: 1.0000 msec Module hltPreMu17Mu8 was slowest in event 267, with time: 0.9990 msec Module hltMuTrackSeeds was slowest in event 608, with time: 26.9960 msec Module hltMuCkfTrackCandidates was slowest in event 608, with time: 180.9730 msec Module hltMuCtfTracks was slowest in event 608, with time: 54.9910 msec Module hltDiMuonMerging was slowest in event 608, with time: 2.0000 msec Module hltDiMuonLinks was slowest in event 608, with time: 1.0000 msec Module hltGlbTrkMuons was slowest in event 608, with time: 11.9980 msec Module hltPreMu22TkMu22 was slowest in event 61, with time: 1.0000 msec Module hltPreMu5L2Mu3Jpsi was slowest in event 516, with time: 1.0000 msec Module hltMu5L2Mu3L1FilteredO was slowest in event 404, with time: 1.0000 msec Module hltMu5L2Mu3JpsiTrackMassFiltered was slowest in event 384, with time: 1.0000 msec Module hltL1sL1SingleEG12 was slowest in event 71, with time: 1.0000 msec

Module hltPrePhoton20R9IdPhoton18R9Id was slowest in event 70, with time: 1.0000 msec Module hltEcalRegionalEgammaFEDs was slowest in event 19, with time: 1.0000 msec Module hltEcalRegionalEgammaRecHit was slowest in event 773, with time: 1.0000 msec Module hltESRegionalEgammaRecHit was slowest in event 52, with time: 1.0000 msec Module hltHybridSuperClustersL1Seeded was slowest in event 431, with time: 3.0000 msec Module hltCorrectedHybridSuperClustersL1Seeded was slowest in event 50, with time: 1.0000 msec Module hltMulti5x5BasicClustersL1Seeded was slowest in event 312, with time: 2.0000 msec Module hltMulti5x5SuperClustersL1Seeded was slowest in event 92, with time: 1.0000 msec Module hltMulti5x5EndcapSuperClustersWithPreshowerL1Seeded was slowest in event 972, with time: 6.9980 msec Module hltCorrectedMulti5x5EndcapSuperClustersWithPreshowerL1Seeded was slowest in event 167, with time: Module hltL1SeededRecoEcalCandidate was slowest in event 270, with time: 1.0000 msec Module hltEGRegionalL1SingleEG12 was slowest in event 381, with time: 1.0000 msec Module hltEG20EtFilter was slowest in event 78, with time: 1.0000 msec Module hltL1SeededPhotonHcalForHE was slowest in event 395, with time: 2.0000 msec Module hltPhoton20R9IdPhoton18R9IdEgammaLHEFilter was slowest in event 362, with time: 1.0000 msec Module hltL1SeededR9ID was slowest in event 6, with time: 1.0000 msec

1.0

Module hltPhoton20R9IdPhoton18R9IdEgammaR9IDFilter was slowest in event 804, with time: 1.0000 msec Module hltActivityPhotonHcalForHE was slowest in event 631, with time: 1.0000 msec Module hltL1sL1DoubleEG137 was slowest in event 143, with time: 1.0000 msec Module hltEGRegionalL1DoubleEG137 was slowest in event 26, with time: 1.0000 msec Module hltEG26EtFilter was slowest in event 304, with time: 1.0000 msec Module hltEG26R9Id85LastFilter was slowest in event 651, with time: 0.9990 msec Module hltPrePhoton26R9Id85Photon18CaloId10Iso50Mass60 was slowest in event 525, with time: 0.9990 msec Module hltL1SeededHLTClusterShape was slowest in event 19, with time: 1.0000 msec Module hltL1SeededPhotonEcalIsol was slowest in event 483, with time: 7.9990 msec Module hltL1SeededPhotonHcalIsol was slowest in event 32, with time: 1.0000 msec Module hltL1sL1SingleEG20 was slowest in event 80, with time: 1.0000 msec Module hltEGRegionalL1SingleEG20 was slowest in event 829, with time: 1.0000 msec Module hltEG30EtFilter was slowest in event 873, with time: 1.0000 msec Module hltL1sL1SingleEG22 was slowest in event 59, with time: 1.0000 msec Module hltEG36EtFilter was slowest in event 365, with time: 1.0000 msec Module hltEG36HE10Filter was slowest in event 395, with time: 1.0000 msec Module hltPrePhoton36CaloId10Iso50Photon22CaloId10Iso50 was slowest in event 682, with time: 1.0000 msec Module hltEG36CaloId10Iso50HcalIsolLastFilter was slowest in event 986, with time: 1.0000 msec

Module hltEG50EtFilter was slowest in event 75, with time: 1.0000 msec

Module hltEG75EtFilter was slowest in event 990, with time: 1.0000 msec

Module hltPrePhoton90CaloIdVL was slowest in event 775, with time: 1.0000 msec

Module hltEG90EtFilter was slowest in event 502, with time: 1.0000 msec

Module hltEG90EBOnlyEtFilter was slowest in event 702, with time: 1.0000 msec

Module hltPrePhoton90EBOnlyCaloIdVLIsoLTriPFJet30 was slowest in event 78, with time: 0.9990 msec

Module hltL1sL1SingleEG30 was slowest in event 84, with time: 1.0000 msec

Module hltEG43EtFilter was slowest in event 750, with time: 1.0000 msec

Module hltEG48HEVTFilter was slowest in event 395, with time: 0.9990 msec

Module hltL1sL1SingleEG5 was slowest in event 45, with time: 1.0000 msec

Module hltPreEle8CaloIdLCaloIsoVL was slowest in event 391, with time: 1.0000 msec

Module hltEGRegionalL1SingleEG5 was slowest in event 16, with time: 1.0000 msec

Module hltEG8EtFilter was slowest in event 63, with time: 1.0000 msec

Module hltEle8CaloIdLCaloIsoVLClusterShapeFilter was slowest in event 127, with time: 1.0000 msec

Module hltEle8CaloIdLCaloIsoVLEcalIsolFilter was slowest in event 537, with time: 1.0000 msec

```
Module hltEle8CaloIdLCaloIsoVLHEFilter was slowest in event 145, with time:
                                                                              1.0000 msec
Module hltEle8CaloIdLCaloIsoVLHcalIsolFilter was slowest in event 311, with time:
                                                                                    1.0000 msec
Module hltL1SeededStartUpElectronPixelSeeds was slowest in event 608, with time: 240.9640 msec
Module hltEle8CaloIdLCaloIsoVLPixelMatchFilter was slowest in event 242, with time:
                                                                                      1.0000 msec
Module hltEG17EtFilter was slowest in event 119, with time:
                                                              1.0000 msec
Module hltEG17CaloIdLClusterShapeFilter was slowest in event 33, with time:
                                                                              1.0000 msec
Module hltEG17CaloIdLCaloIsoVLEcalIsoFilter was slowest in event 105, with time:
                                                                                   1.0000 msec
Module hltEG17CaloIdLCaloIsoVLHEFilter was slowest in event 581, with time:
                                                                              1.0000 msec
Module hltEle17CaloIdLCaloIsoVLPixelMatchFilter was slowest in event 548, with time:
                                                                                       1.0000 msec
Module hltPreEle22CaloIdLCaloIsoVL was slowest in event 575, with time:
                                                                          1.0000 msec
Module hltEG22EtFilter was slowest in event 63, with time:
                                                             1.0000 msec
Module hltEG22CaloIdLClusterShapeFilter was slowest in event 740, with time:
                                                                               1.0000 msec
Module hltEG22CaloIdLCaloIsoVLHEFilter was slowest in event 105, with time:
                                                                              1.0000 msec
Module hltPreEle27CaloIdLCaloIsoVLTrkIdVLTrkIsoVL was slowest in event 548, with time:
                                                                                         1.0000 msec
Module hltEG27EtFilter was slowest in event 859, with time:
                                                              1.0000 msec
Module hltEle27CaloIdLCaloIsoVLEcalIsoFilter was slowest in event 772, with time:
                                                                                    1.0000 msec
Module hltEle27CaloIdLCaloIsoVLHEFilter was slowest in event 304, with time:
                                                                               1.0000 msec
```

```
Module hltEle27CaloIdLCaloIsoVLPixelMatchFilter was slowest in event 181, with time:
                                                                                        1.0000 msec
Module hltCkfL1SeededTrackCandidates was slowest in event 442, with time:
                                                                            10.9980 msec
Module hltCtfL1SeededWithMaterialTracks was slowest in event 38, with time:
                                                                               1.0000 msec
Module hltPixelMatchElectronsL1Seeded was slowest in event 266, with time:
                                                                              1.0000 msec
Module hltEG27EtFilterSingleEG20 was slowest in event 924, with time:
                                                                         1.0000 msec
Module hltEle27TightIdLooseIsoHEFilter was slowest in event 772, with time:
                                                                               1.0000 msec
Module hltCkf3HitL1SeededTrackCandidates was slowest in event 635, with time:
                                                                                 2.9990 msec
Module hltCtf3HitL1SeededWithMaterialTracks was slowest in event 678, with time:
                                                                                    0.9990 msec
Module hltEG23EtFilterSingleEG20 was slowest in event 229, with time:
                                                                         1.0000 msec
Module hltEle23TightIdLooseIsoClusterShapeFilter was slowest in event 709, with time:
                                                                                         0.9990 msec
Module hltEle27WP80ClusterShapeFilter was slowest in event 414, with time:
                                                                              1.0000 msec
Module hltPreEle30CaloIdVTTrkIdT was slowest in event 757, with time:
                                                                         1.0000 msec
Module hltEG30EtFilterL1EG22 was slowest in event 651, with time:
                                                                     1.0000 msec
Module hltEle30CaloIdVTPixelMatchFilter was slowest in event 565, with time:
                                                                                0.9990 msec
Module hltPreEle32WP70 was slowest in event 441, with time:
                                                               1.0000 msec
Module hltEG32EtFilter was slowest in event 323, with time:
                                                               1.0000 msec
```

Module hltEle32WP70HEFilter was slowest in event 820, with time: 1.0000 msec Module hltPreEle32WP70PFMT50 was slowest in event 575, with time: 1.0000 msec Module hltEle32CaloIdLCaloIsoVLEcalIsoFilter was slowest in event 365, with time: 1.0000 msec Module hltEG65EtFilter was slowest in event 564, with time: 1.0000 msec Module hltEG80EtFilter was slowest in event 856, with time: 1.0000 msec Module hltPreEle100CaloIdVTTrkIdT was slowest in event 301, with time: 1.0000 msec Module hltEG100EtFilter was slowest in event 311, with time: 1.0000 msec Module hltEG33EtFilter was slowest in event 422, with time: 1.0000 msec Module hltEG33HEFilter was slowest in event 393, with time: 1.0000 msec Module hltL1sL1Mu3JetC16WdEtaPhi2 was slowest in event 37, with time: 1.0000 msec Module hltPreBTagMuDiJet20L1FastJetMu5 was slowest in event 122, with time: 1.0000 msec Module hltBDiJet20L1FastJetCentral was slowest in event 23, with time: 1.0000 msec Module hltBSoftMuonGetJetsFromDiJet20L1FastJet was slowest in event 255, with time: 1.0000 msec Module hltSelector4JetsDiJet20L1FastJet was slowest in event 280, with time: 1.0000 msec Module hltBSoftMuonDiJet20L1FastJetL25Jets was slowest in event 284, with time: 1.0000 msec Module hltBSoftMuonDiJet20L1FastJetL25TagInfos was slowest in event 72, with time: 1.0000 msec Module hltBSoftMuonDiJet20L1FastJetL25BJetTagsByDR was slowest in event 19, with time: 1.0000 msec Module hltBSoftMuonDiJet20L1FastJetL25FilterByDR was slowest in event 77, with time: 1.0000 msec

Module hltBSoftMuonDiJet20L1FastJetMu5SelL3TagInfos was slowest in event 190, with time: 1.0000 msec

Module hltBSoftMuonDiJet20L1FastJetMu5SelL3BJetTagsByDR was slowest in event 72, with time: 1.0000 msec

Module hltBSoftMuonDiJet20L1FastJetMu5L3FilterByDR was slowest in event 83, with time: 1.0000 msec

Module hltPreBTagMuDiJet40L1FastJetMu5 was slowest in event 475, with time: 1.0000 msec

Module hltBDiJet40L1FastJetCentral was slowest in event 100, with time: 1.0000 msec

Module hltBSoftMuonDiJet40L1FastJetL25Jets was slowest in event 321, with time: 1.0000 msec

Module hltBSoftMuonDiJet40L1FastJetL25TagInfos was slowest in event 239, with time: 1.0000 msec

Module hltBSoftMuonDiJet40L1FastJetL25FilterByDR was slowest in event 280, with time: 1.0000 msec

Module hltBSoftMuonDiJet40L1FastJetMu5SelL3TagInfos was slowest in event 202, with time: 1.0000 msec

Module hltBSoftMuonDiJet40L1FastJetMu5L3FilterByDR was slowest in event 452, with time: 1.0000 msec

Module hltL1sL1Mu3JetC52WdEtaPhi2 was slowest in event 28, with time: 1.0000 msec

Module hltBDiJet110L1FastJetCentral was slowest in event 303, with time: 1.0000 msec

Module hltL1sMu12Eta2p1ETM20 was slowest in event 16, with time: 1.0000 msec

Module hltPreMu24eta2p1CentralPFJet30CentralPFJet25 was slowest in event 929, with time: 1.0000 msec

Module hltPreIsoMu24eta2p1PFJet30PFJet25Deta3 was slowest in event 668, with time: 1.0000 msec

```
Module hltPreIsoMu24eta2p1CentralPFJet30CentralPFJet25PFMHT20 was slowest in event 603, with time:
                                                                                                       0.9990 \, \text{ms}
Module hltPreEle27WP80CentralPFJet30CentralPFJet25 was slowest in event 320, with time:
                                                                                            1.0000 msec
Module hltL1Mu16Eta2p1CenJetL1FilteredO was slowest in event 731, with time:
                                                                                 1.0000 msec
Module hltL2Mu16Eta2p1CenJetL2QFiltered16 was slowest in event 25, with time:
                                                                                  1.0000 msec
Module hltPreIso10Mu20eta2p1QuadCentralPFJet30 was slowest in event 908, with time:
                                                                                        1.0000 msec
Module hltL1sL1Mu3p5EG12 was slowest in event 134, with time:
                                                                  1.0000 msec
Module hltL1Mu3p5EG12L1Filtered3p5 was slowest in event 20, with time:
                                                                           1.0000 msec
Module hltL1Mu3p5EG12L3Filtered30 was slowest in event 516, with time:
                                                                           1.0000 msec
Module hltPFTauTagInfo was slowest in event 781, with time:
                                                              61.9900 msec
Module hltPFTaus was slowest in event 781, with time:
                                                         5.9990 msec
Module hltSelectedPFTausTrackFindingLooseIsolation was slowest in event 548, with time:
                                                                                            1.0000 msec
Module hltL1sL1SingleEG18erJetCCen28Tau20dPhi1 was slowest in event 19, with time:
                                                                                       1.0000 msec
Module hltPreEle20CaloIdVTCaloIsoRhoTTrkIdTTrkIsoTLooseIsoPFTau20L1Jet was slowest in event 662, with time:
Module hltEGRegionalL1SingleEG18erJetCCen28Tau20dPhi1 was slowest in event 182, with time:
                                                                                               1.0000 msec
Module hltEG20L1s18JetCEtFilter was slowest in event 77, with time:
                                                                       1.0000 msec
Module hltEle20CaloIdVTL1JetClusterShapeFilter was slowest in event 266, with time:
                                                                                        1.0000 msec
Module hltL1SeededPhotonEcalIsolRhoCorr was slowest in event 362, with time:
                                                                                 5.9990 msec
```

Module hltL1SeededPhotonHcalIsolRhoCorr was slowest in event 223, with time: 1.0000 msec Module hltEle20CaloIdVTCaloIsoTL1JetPixelMatchFilter was slowest in event 362, with time: 0.9990 msec Module hltEle20CaloIdVTCaloIsoTTrkIdTL1JetDetaFilter was slowest in event 635, with time: 1.0000 msec Module hltL1MatchedLooseIsoPFTau20 was slowest in event 781, with time: 1.0000 msec Module hltPreEle20CaloIdVTTrkIdTLooseIsoPFTau20 was slowest in event 266, with time: 1.0000 msec Module hltEle20CaloIdVTHEFilter was slowest in event 548, with time: 1.0000 msec Module hltEle20CaloIdVTTrkIdTPixelMatchFilter was slowest in event 592, with time: 1.0000 msec Module hltL1sL1SingleIsoEG18erOREG20 was slowest in event 57, with time: 1.0000 msec Module hltEGRegionalL1SingleIsoEG18erOREG20 was slowest in event 429, with time: 1.0000 msec Module hltEG20L1sIso180r20EtFilter was slowest in event 554, with time: 1.0000 msec Module hltEle20CaloIdVTClusterShapeFilterL1IsoEG180rEG20 was slowest in event 747, with time: 0.9990 msec Module hltEle20CaloIdVTCaloIsoTEcalIsoFilterL1IsoEG180rEG20 was slowest in event 747, with time: 1.0000 msec Module hltEle20CaloIdVTCaloIsoTHEFilterL1IsoEG180rEG20 was slowest in event 252, with time: 1.0000 msec Module hltL1sL1SingleEG18er was slowest in event 39, with time: 1.0000 msec Module hltEGRegionalL1SingleEG18er was slowest in event 205, with time: 1.0000 msec

1.0000 msec

Module hltEG20L1s18EtFilter was slowest in event 182, with time:

```
Module hltEle20CaloIdVTCaloIsoTEcalIsoFilter was slowest in event 252, with time:
                                                                                     1.0000 msec
Module hltEG25EtFilter was slowest in event 575, with time:
                                                               1.0000 msec
Module hltEle25CaloIdVTTrkIdTClusterShapeFilter was slowest in event 481, with time:
                                                                                        1.0000 msec
Module hltEle25CaloIdVTTrkIdTTriCentralPFJet30EleCleaned was slowest in event 781, with time:
                                                                                                 1.0000 msec
Module hltEG25CaloIdTClusterShapeFilter was slowest in event 422, with time:
                                                                                1.0000 msec
Module hltPreEle25CaloIdVTCaloIsoTTrkIdTTrkIsoTDiCentralPFJet30 was slowest in event 619, with time:
                                                                                                        1.0000
Module hltPreEle25CaloIdVTCaloIsoTTrkIdTTrkIsoTTriCentralPFJet30 was slowest in event 611, with time:
                                                                                                         1.0000
Module hltPreEle25CaloIdVTCaloIsoTTrkIdTTrkIsoTCentralPFJet30BTagIPIter was slowest in event 818, with time:
Module hltPreEle30CaloIdVTTrkIdTPFJet150PFJet25 was slowest in event 678, with time:
                                                                                        1.0000 msec
Module hltL1sL1BeamGasHfBptxPlusPostQuiet was slowest in event 33, with time:
                                                                                 1.0000 msec
Module hltL1sL1BeamGasHfBptxMinusPostQuiet was slowest in event 121, with time:
                                                                                   1.0000 msec
Module hltL1sL1BeamHalo was slowest in event 70, with time:
                                                               1.0000 msec
Module hltL1TechCASTORHaloMuon was slowest in event 101, with time:
                                                                       1.0000 msec
Module hltL1TechDTGlobalOR was slowest in event 45, with time:
                                                                  1.0000 msec
Module hltL1sTechTrigHCALNoise was slowest in event 79, with time:
                                                                      1.0000 msec
Module hltL1sL1TechHCALHFsinglechannel was slowest in event 58, with time:
                                                                              1.0000 msec
```

1.0000 msec

Module hltEle20CaloIdVTClusterShapeFilter was slowest in event 362, with time:

Module hltPreZeroBias was slowest in event 817, with time: 1.0000 msec Module hltPrePhysics was slowest in event 267, with time: 1.0000 msec Module hltPreDSTPhysics was slowest in event 568, with time: 1.0000 msec Module hltCalibrationEventsFilter was slowest in event 329, with time: 1.0000 msec Module hltRandomEventsFilter was slowest in event 810, with time: 1.0000 msec Module hltL1sTrackerCosmics was slowest in event 120, with time: 1.0000 msec Module hltPreLogMonitor was slowest in event 388, with time: 1.0000 msec Module hltLogMonitorFilter was slowest in event 775, with time: 2.0000 msec Module hltPreDTErrors was slowest in event 149, with time: 1.0000 msec Module hltDTROMonitorFilter was slowest in event 161. with time: 1.0000 msec Module hltPreL1DoubleJet36Central was slowest in event 850, with time: 1.0000 msec Module hltL1sAlCaEcalPiOEta was slowest in event 28, with time: 1.0000 msec Module hltPreAlCaEcalPiOEBonly was slowest in event 321, with time: 1.0000 msec Module hltEcalRegionalPiOEtaFEDs was slowest in event 19, with time: 1.0000 msec Module hltESRegionalPiOEtaRecHit was slowest in event 52, with time: 1.0000 msec

1.0000 msec

Module hltEcalRegionalPiOEtaRecHit was slowest in event 23, with time:

Module hltSimple3x3Clusters was slowest in event 19, with time: 1.0000 msec Module hltAlCaPiORecHitsFilterEBonly was slowest in event 29, with time: 2.0000 msec Module hltPreAlCaEcalPiOEEonly was slowest in event 775, with time: 1.0000 msec Module hltAlCaPiORecHitsFilterEEonly was slowest in event 442, with time: 3.9990 msec Module hltPreAlCaEcalEtaEBonly was slowest in event 725, with time: 1.0000 msec Module hltAlCaEtaRecHitsFilterEBonly was slowest in event 30, with time: 2.0000 msec Module hltPreAlCaEcalEtaEEonly was slowest in event 199, with time: 1.0000 msec Module hltAlCaEtaRecHitsFilterEEonly was slowest in event 112, with time: 2.0000 msec Module hltPreAlCaEcalPhiSym was slowest in event 171, with time: 1.0000 msec Module hltAlCaPhiSymStream was slowest in event 16, with time: 1.0000 msec Module hltL1sAlCaRPC was slowest in event 15, with time: 1.0000 msec Module hltPreAlCaRPCMuonNoTriggers was slowest in event 723, with time: 1.0000 msec Module hltRPCMuonNoTriggersL1FilteredO was slowest in event 500, with time: 1.0000 msec Module hltPreAlCaRPCMuonNoHits was slowest in event 654, with time: 0.9990 msec Module hltRPCPointProducer was slowest in event 59, with time: 1.0000 msec Module hltRPCFilter was slowest in event 23, with time: 1.0000 msec Module hltRPCMuonNormaL1FilteredO was slowest in event 532, with time: 1.0000 msec

Module hltL1sZeroBiasInstance1 was slowest in event 27, with time: 1.0000 msec Module hltPreAlCaLumiPixels was slowest in event 763, with time: 1.0000 msec Module hltFEDSelectorLumiPixels was slowest in event 725, with time: 1.0000 msec Module hltPreDQMFEDIntegrity was slowest in event 205, with time: 1.0000 msec Module hltCSCMonitorModule was slowest in event 37, with time: 61.9910 msec Module hltDTDQMEvF was slowest in event 6, with time: 1.0000 msec Module hltEcalRawToRecHitByproductProducer was slowest in event 20, with time: 1.0000 msec Module hltEBHltTask was slowest in event 83, with time: 1.0000 msec Module hltEEHltTask was slowest in event 58, with time: 1.0000 msec 1.0000 msec Module hltESFEDIntegrityTask was slowest in event 65, with time: Module hltHcalDataIntegrityMonitor was slowest in event 42, with time: 1.0000 msec Module hltL1tfed was slowest in event 85, with time: 1.0000 msec Module hltSiPixelHLTSource was slowest in event 716, with time: 1.0000 msec Module hltSiStripFEDCheck was slowest in event 23, with time: 3.0000 msec Module hltRPCFEDIntegrity was slowest in event 559, with time: 1.0000 msec Module hltFEDSelector was slowest in event 22, with time: 1.0000 msec

Module hltTriggerSummaryAOD was slowest in event 626, with time: 1.0000 msec

Module hltTriggerSummaryRAW was slowest in event 9, with time: 1.0000 msec

Timing histograms run from 0 to 1000 msec

The bin width for the timing histograms is 10 msec

0.634249% (6/946) of all events fall outside the timing range

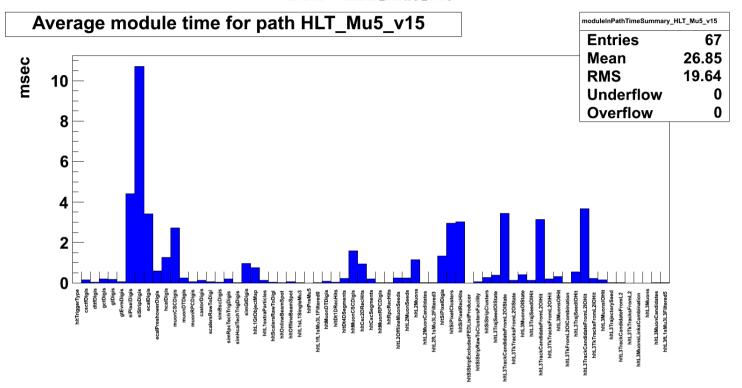
NOTE: The mean and rms values are calculated for all events (that INCLUDES overflows)

Chapter 2

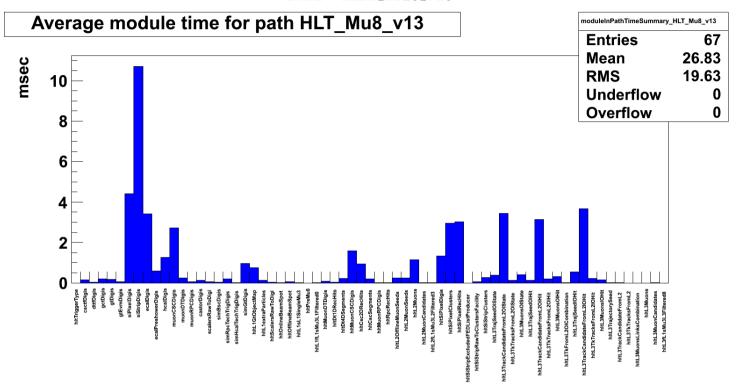
10 Slowest Paths

2.1 Average module (in path) time

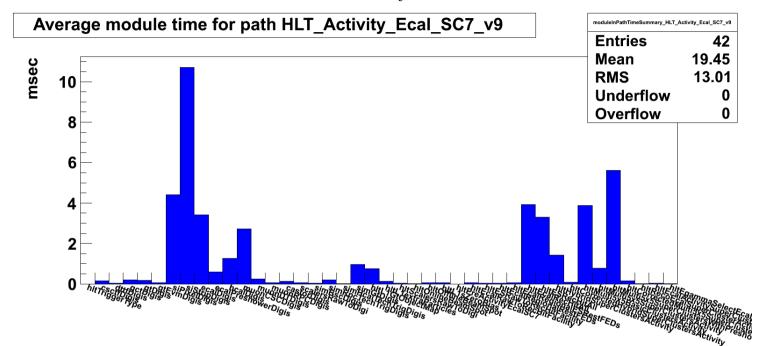
$2.1.1 \quad HLT_Mu5_v15$



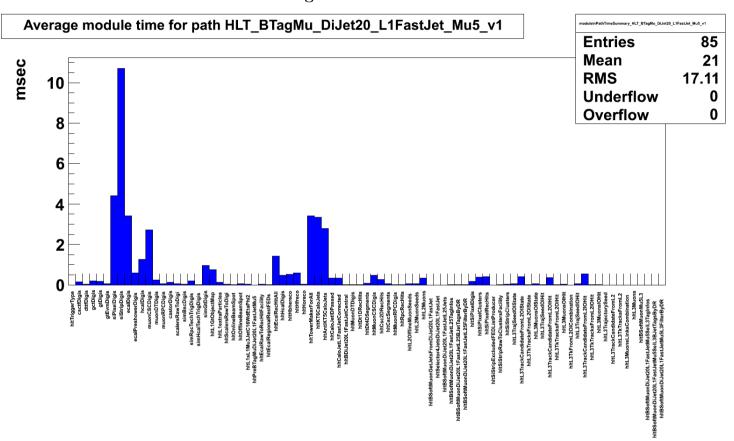
2.1.2 HLT_Mu8_v13



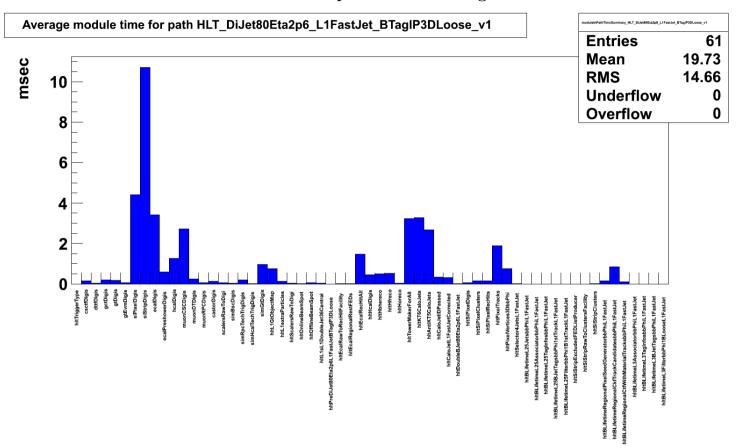
2.1.3 HLT_Activity_Ecal_SC7_v9



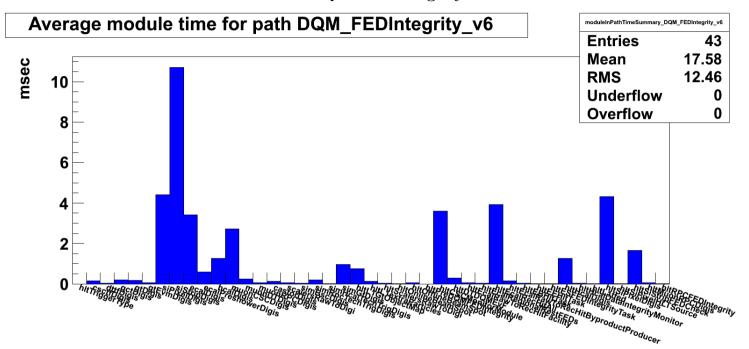
2.1.4 HLT_BTagMu_DiJet20_L1FastJet_Mu5_v1



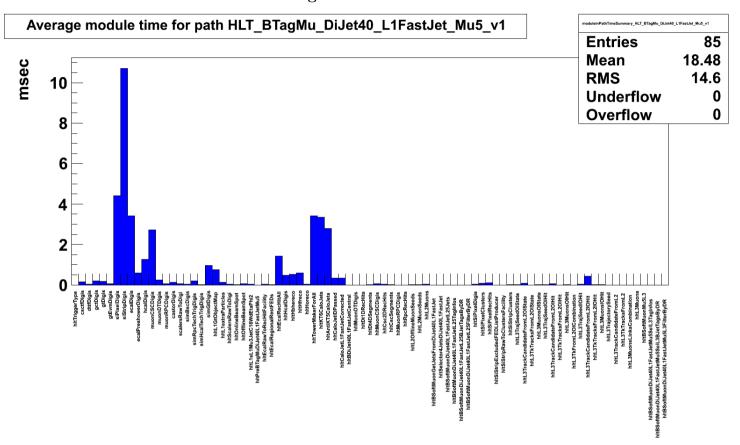
$2.1.5 \quad HLT_DiJet80Eta2p6_L1FastJet_BTagIP3DLoose_v1$



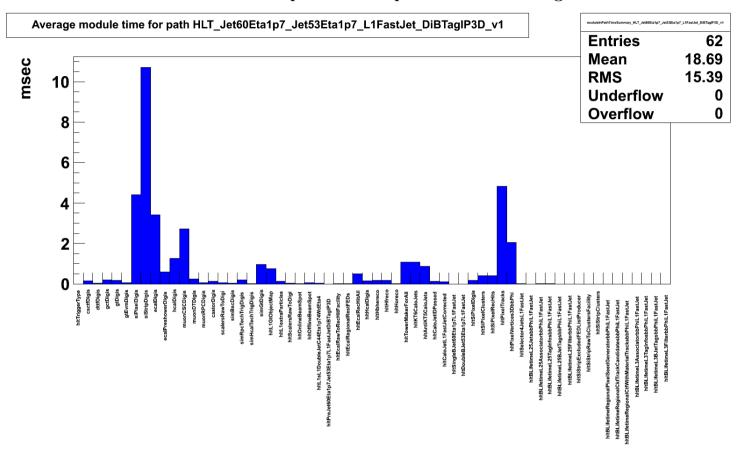
2.1.6 DQM_FEDIntegrity_v6



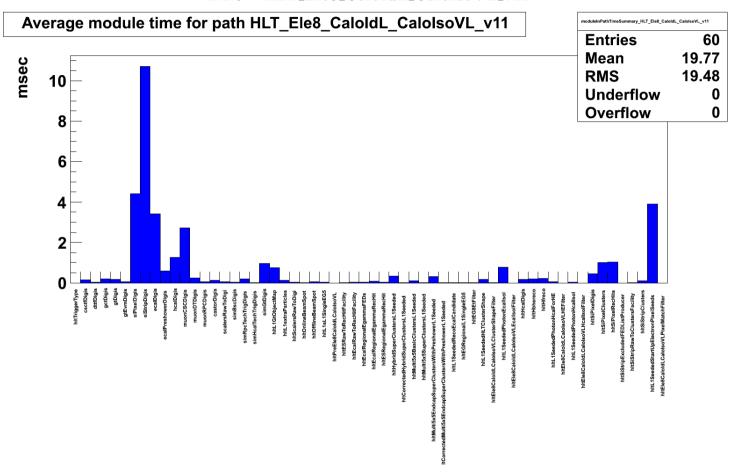
2.1.7 HLT_BTagMu_DiJet40_L1FastJet_Mu5_v1

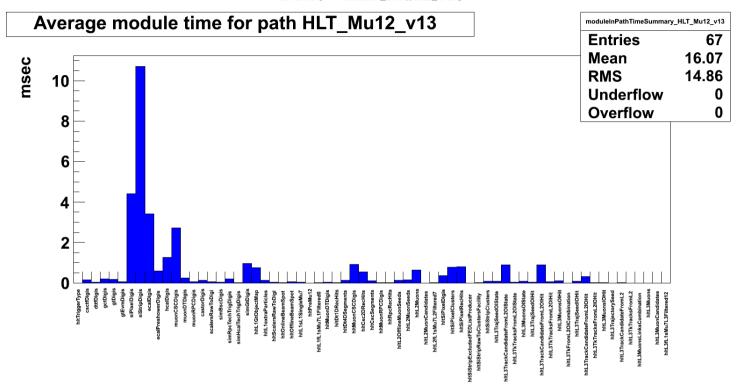


$2.1.8 \quad HLT_Jet60Eta1p7_Jet53Eta1p7_L1FastJet_DiBTagIP3D_v1$



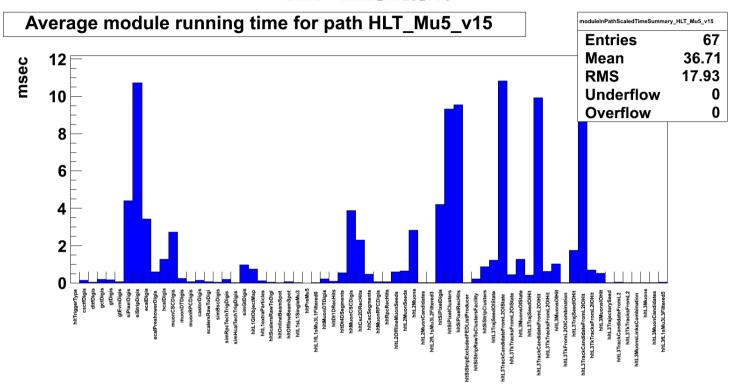
$2.1.9 \quad HLT_Ele8_CaloIdL_CaloIsoVL_v11$



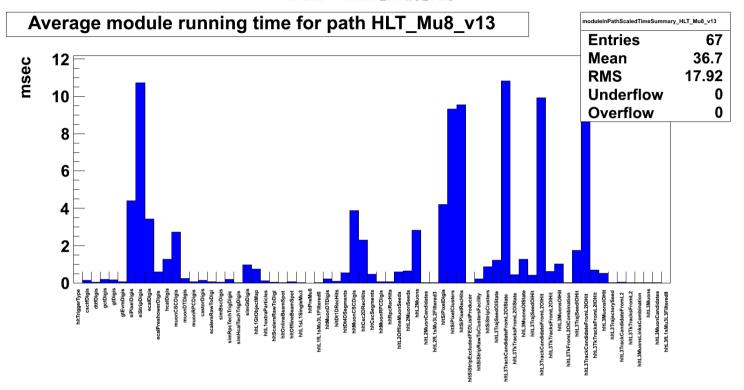


2.2 Average module (in path) running time

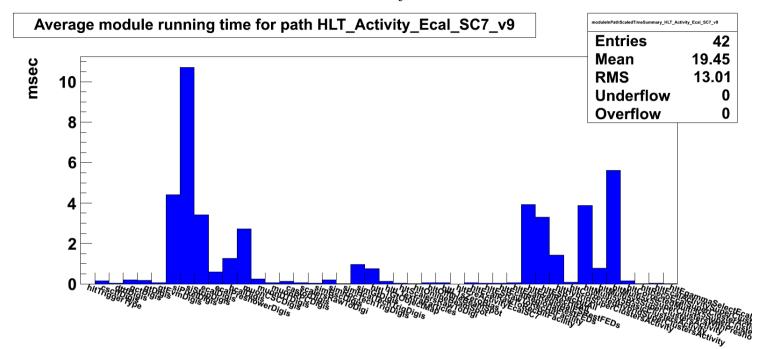
$2.2.1 \quad HLT_Mu5_v15$



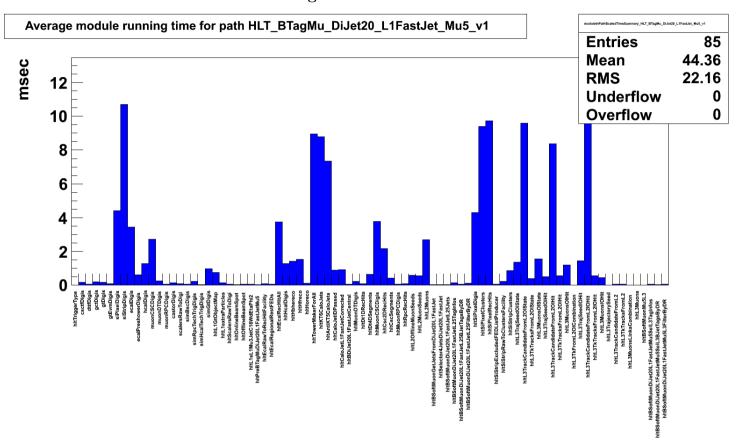
$2.2.2 \quad HLT_Mu8_v13$



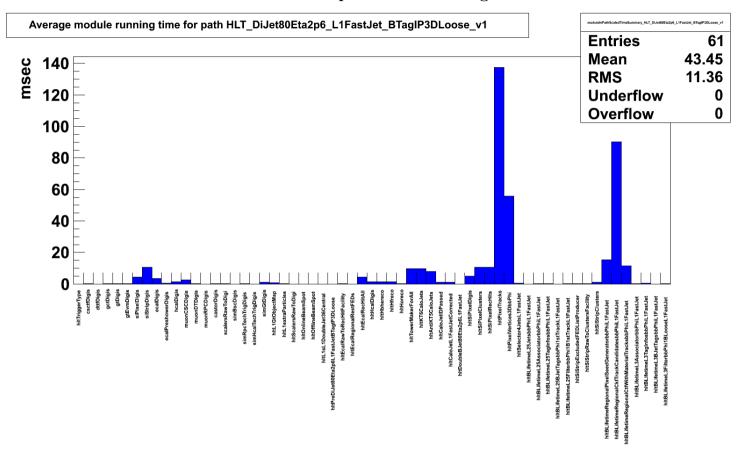
2.2.3 HLT_Activity_Ecal_SC7_v9



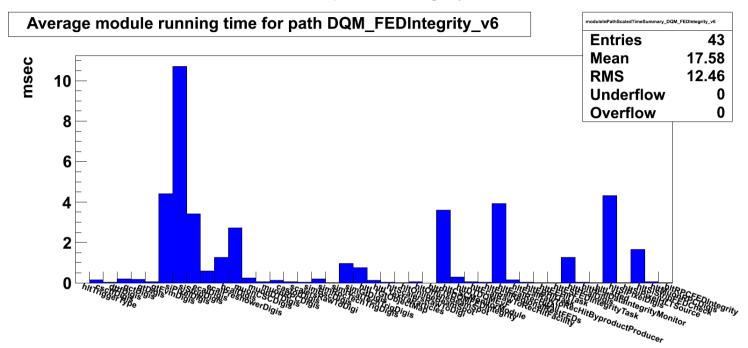
2.2.4 HLT_BTagMu_DiJet20_L1FastJet_Mu5_v1



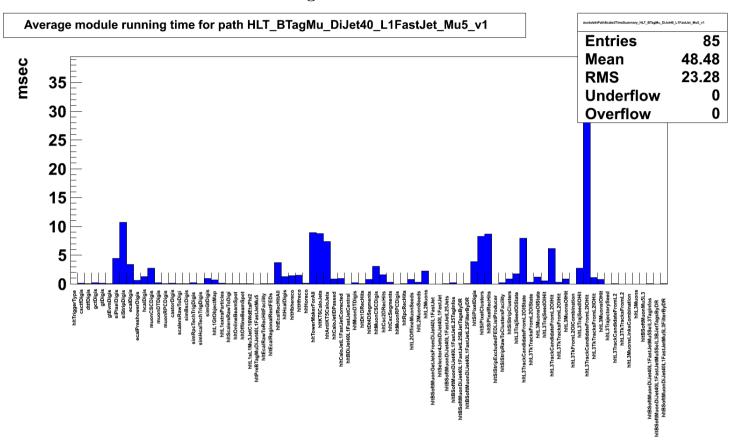
$2.2.5 \quad HLT_DiJet80Eta2p6_L1FastJet_BTagIP3DLoose_v1$



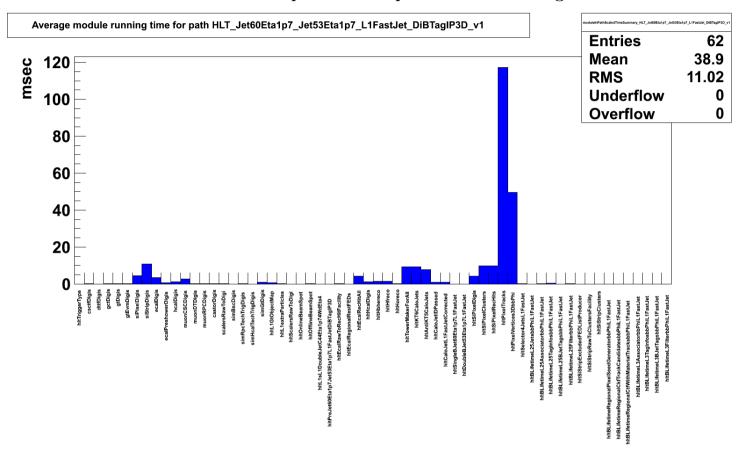
2.2.6 DQM_FEDIntegrity_v6



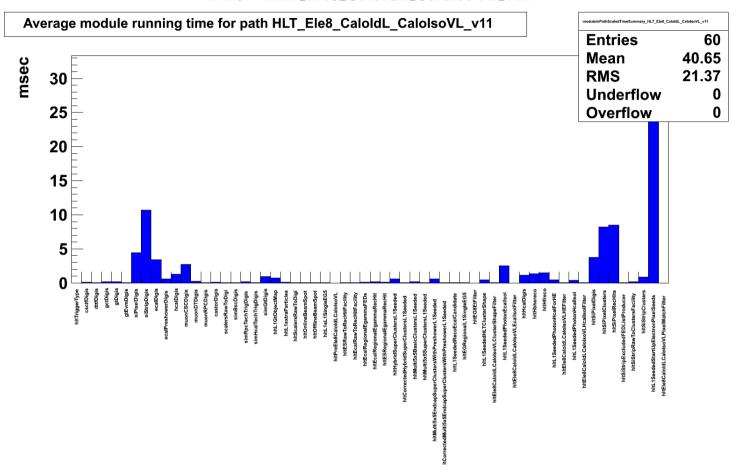
2.2.7 HLT_BTagMu_DiJet40_L1FastJet_Mu5_v1

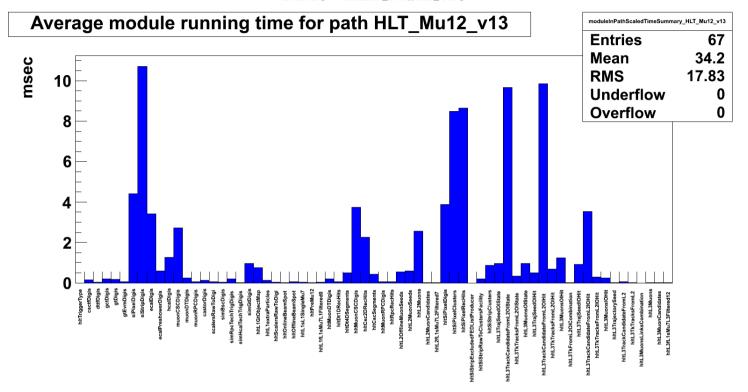


${\bf 2.2.8} \quad HLT_Jet60Eta1p7_Jet53Eta1p7_L1FastJet_DiBTagIP3D_v1$

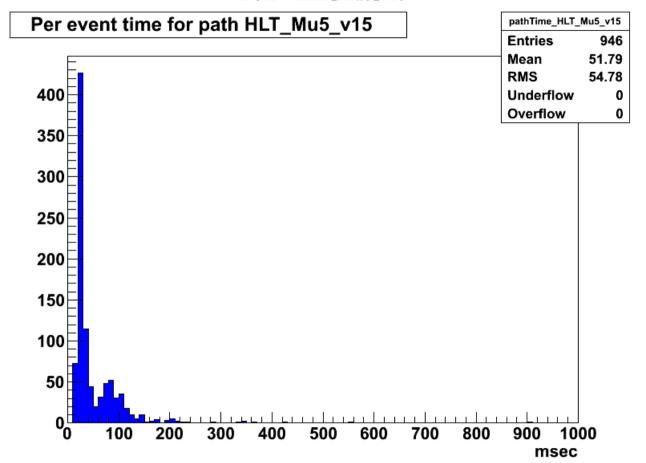


$2.2.9 \quad HLT_Ele8_CaloIdL_CaloIsoVL_v11$

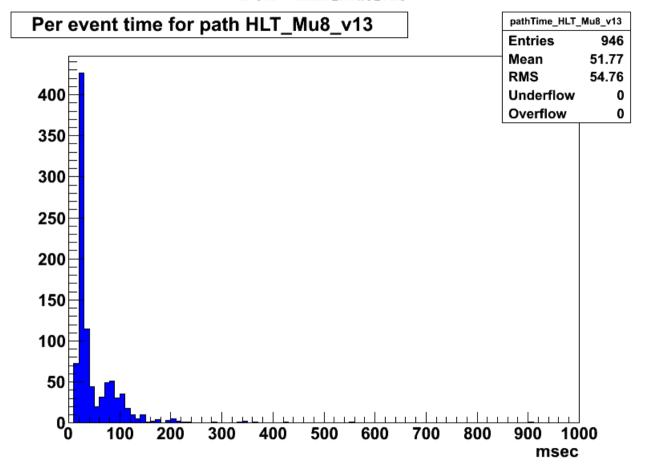




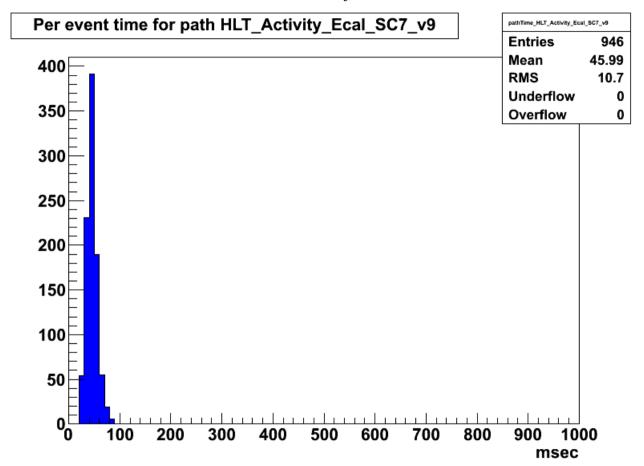
2.3.1 HLT_Mu5_v15



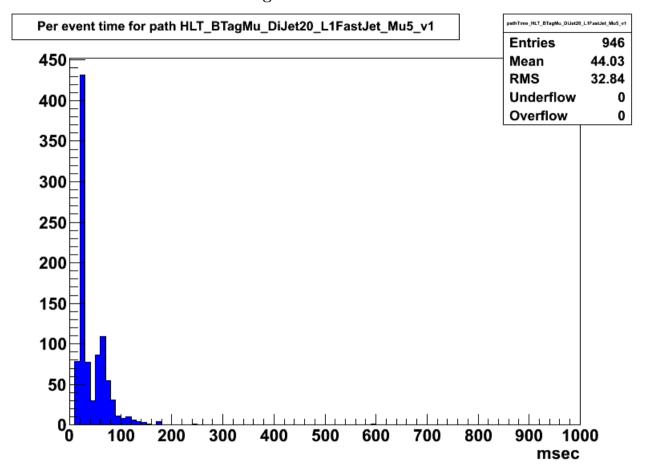
2.3.2 HLT_Mu8_v13



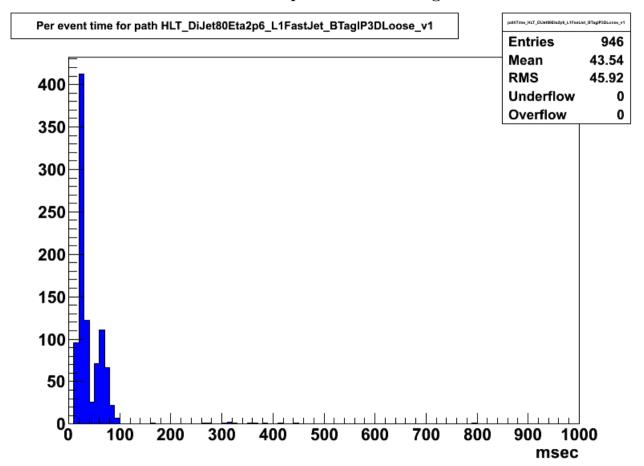
2.3.3 HLT_Activity_Ecal_SC7_v9



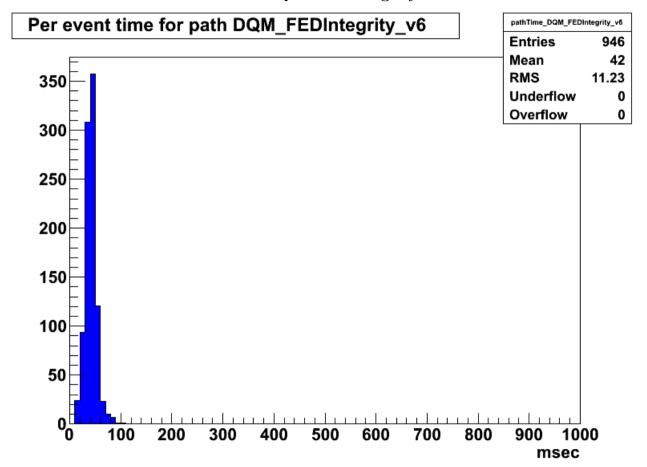
2.3.4 HLT_BTagMu_DiJet20_L1FastJet_Mu5_v1



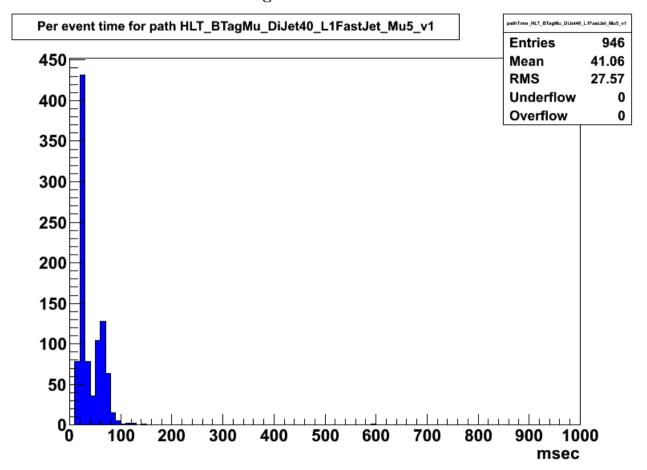
 $2.3.5 \quad HLT_DiJet80Eta2p6_L1FastJet_BTagIP3DLoose_v1$



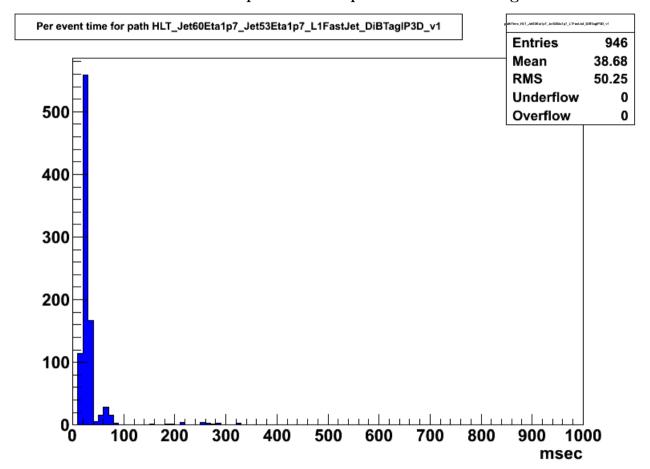
2.3.6 DQM_FEDIntegrity_v6



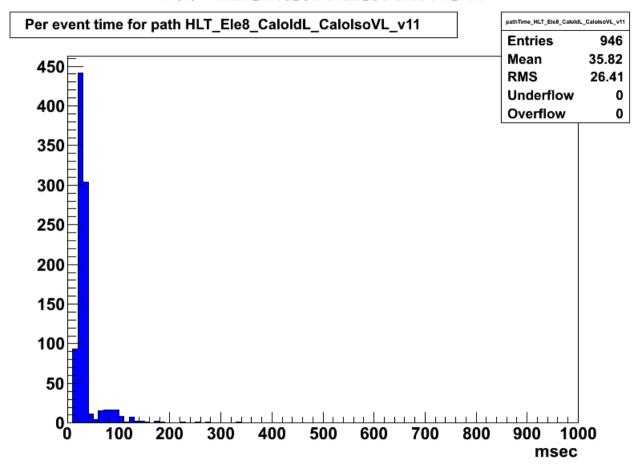
$2.3.7 \quad HLT_BTagMu_DiJet40_L1FastJet_Mu5_v1$



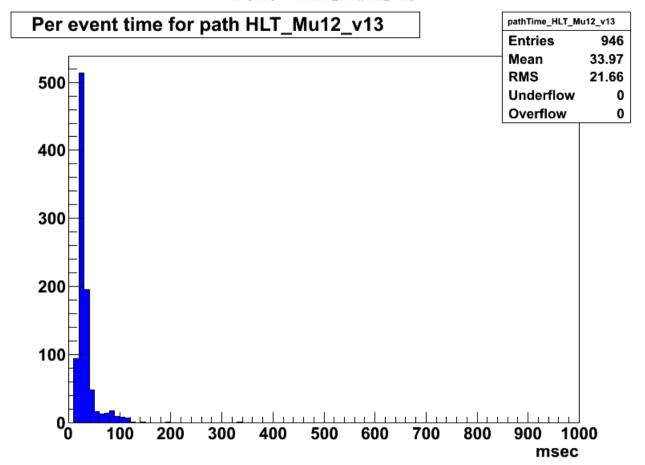
 $\textbf{2.3.8} \quad HLT_Jet60Eta1p7_Jet53Eta1p7_L1FastJet_DiBTagIP3D_v1$



2.3.9 HLT_Ele8_CaloIdL_CaloIsoVL_v11

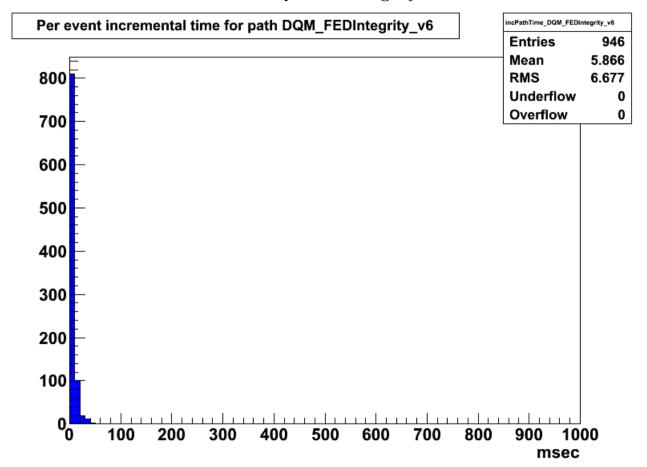


2.3.10 HLT_Mu12_v13

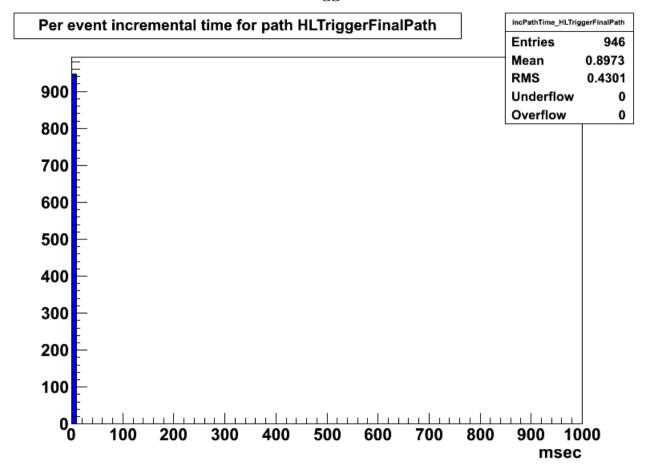


2.4 Per event incremental time for path

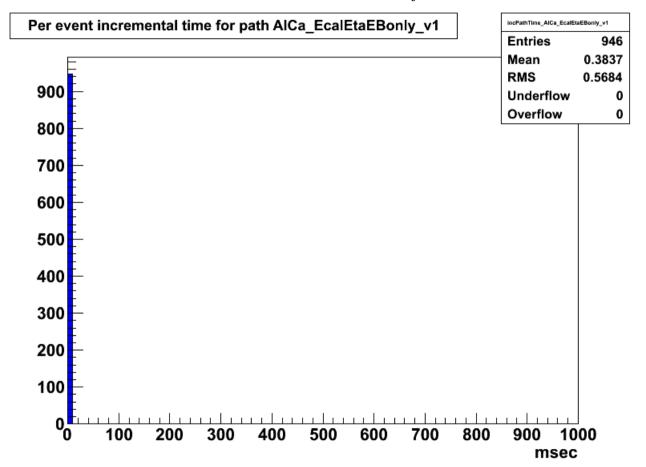
 $2.4.1 \quad DQM_FEDIntegrity_v6$



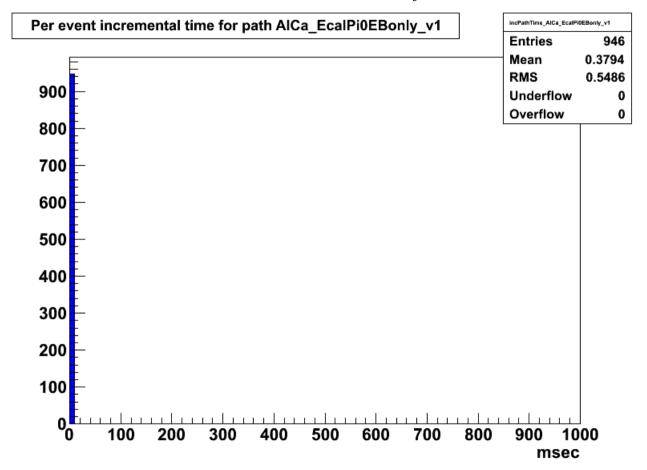
2.4.2 HLTriggerFinalPath



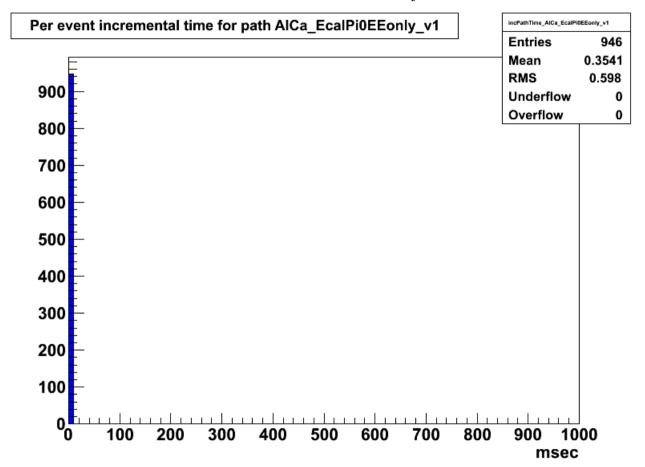
2.4.3 AlCa_EcalEtaEBonly_v1



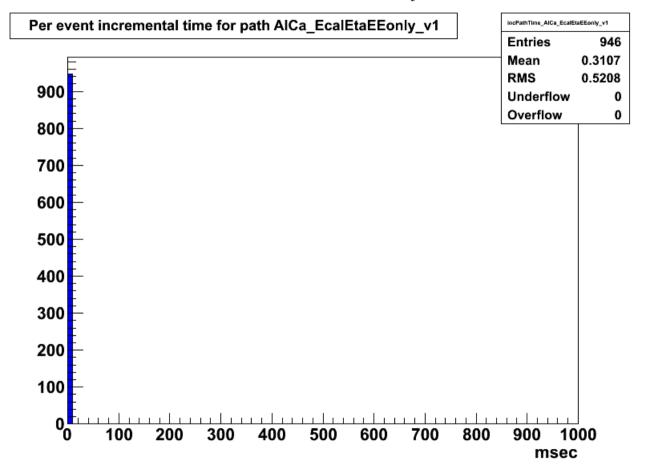
2.4.4 AlCa_EcalPi0EBonly_v1



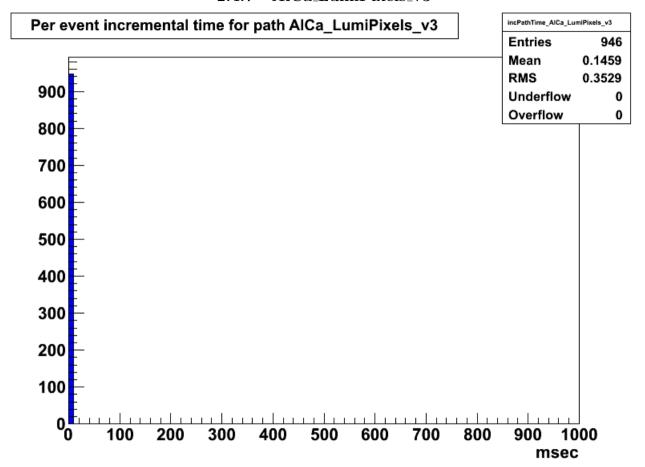
2.4.5 AlCa_EcalPi0EEonly_v1



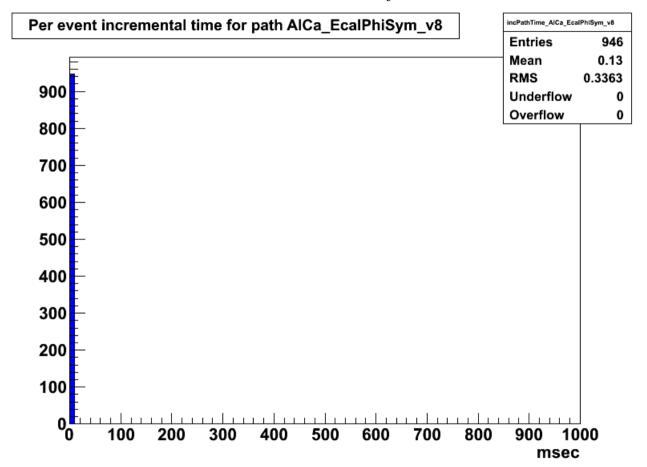
2.4.6 AlCa_EcalEtaEEonly_v1



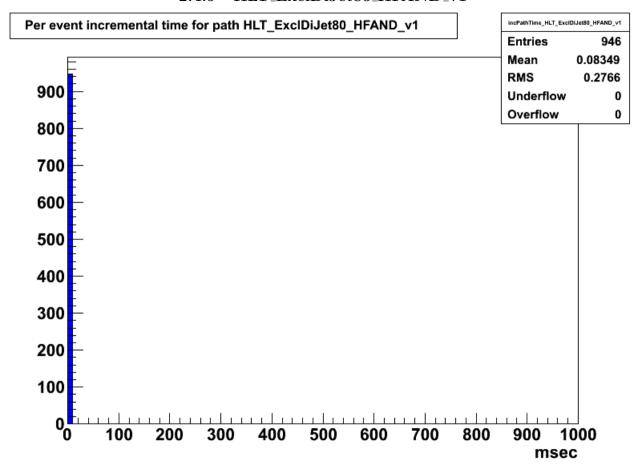
2.4.7 AlCa_LumiPixels_v3



2.4.8 AlCa_EcalPhiSym_v8



2.4.9 HLT_ExclDiJet80_HFAND_v1



$2.4.10 \quad HLT_BTagMu_DiJet20_L1FastJet_Mu5_v1$

